

# AMIGA USER

## INTERNATIONAL

Incorporating Commodore Business Magazine

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JANUARY 1989

### • DTP and the AMIGA

• THE  
REVOLUTION  
BEGINS!

### DELUXE PRINT II

• MAGELLAN  
THE AMIGA  
GOES UNIX

• DREAMY  
COMPUTER  
GRAPHICS

color

grey  
scale

red

grn

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blk

Pixel Perfect

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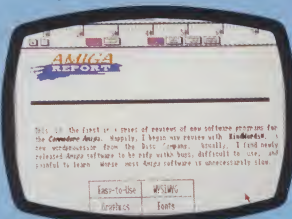


One Nibble and You're Hooked.



# KINDWORDS

Impressive reviews? They'll be lost for words when they see the new KindWords 2.0. It's still as easy to



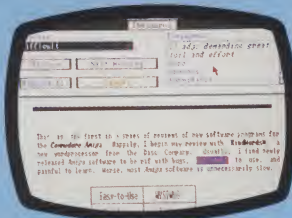
use as its famous predecessor but now boasts a new 100,000 word English dictionary licensed from Collins, and automatic hyphenation.

So it knows the difference between 'colors' and 'colours' and how to use them. Because with KindWords you can easily import graphics into your text documents and produce professional documents that really impress.

As it was designed specifically for the Amiga, KindWords works with your computer, not against it. Pull down menus and full help facilities are used to the maximum advantages — so advanced features such as spell checking and mail merging are easily accomplished.



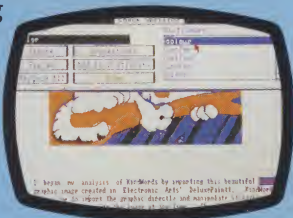
There's a new extensive font library which combines with graphic editing facilities that make KindWords an extraordinary word processor at an unbelievable price.



Which only goes to prove that sometimes you should believe what you read in the press.

Existing KindWords users can upgrade their software for £14.95 inc VAT by calling

010 331 455 310 53 or write to Disc Company Europe, 1 rue du Dôme 75116, Paris, France. Visa, American Express accepted.



Dealers should call Amiga Centre 031-557 4242, GEM 0279-412441, HB Marketing 0895-444433 or Microdealer 0908-74000.

Price

**£49.95**  
inc VAT.

THE DISC COMPANY

# MORE KINDWORDS

"The excellent KindWords includes everything you'd expect to see in an Amiga word processor with many extras."

ST Amiga Format

"KindWords is considerably cheaper than most Amiga word processors... its documentation is well produced and readable... contains quite a number of advance features... good value for money"

Amiga Computing

"KindWords is stylish and uncluttered... simple and elegant with a lot going for it... KindWords is a program written with care, everything about it shows consideration for the user."

Amiga User International

"I found KindWords both powerful and flexible... I think most users will be delighted with KindWords' logical design and power."

Commodore Magazine

"KindWords Superfonts produce attractive, high-quality printouts even from inexpensive dot-matrix printers."

Amiga World



# THE AMIGA DIMENSION

**B**UZZWORDS come and go but ideas stay and form part of our model of living ... New ideas often come in to be used as phrases to impress the listener with the speaker's expertise and trendiness. But if those ideas are of value – and unfortunately sometimes even when they are not – they pass into everyone's vocabulary – both mental and verbal.

DTP – already so far into that second stage as only to need initialising – is a genuinely useful concept, and for those within the Amiga dimension it offers immense potential. For the Amiga does not just provide a technological framework but gives us something far more important, the opportunity to exploit our own creativity.

I personally do not believe that DTP will lead us all into the production of personal newsletters and other complex publications the telephone has greatly reduced the need for

communications even as informal as the letter. But it does provide us, with the support of a computer of power of the Amiga, with simple means when necessary to carry out complicated tasks and to achieve almost a professional level of quality.

Two Commodore magazines in Canada, recently acquired by our company, are produced entirely, up to the printing stage, on Amigas. But the production of such publications requires a high level of expertise and ingenuity – a large dose of creativity too. We hope to be able to pass on to all interested Amiga users some of that in the series on DTP we are starting in *AUI* this month.

Deluxe Print II, an update of an early Amiga DTP-style program is reviewed in this issue and fits neatly into the DTP personal creativity, and entertainment, picture. It is encouraging to see packages like these still occupying the

minds not only of users but of software houses who are not abandoning projects after their initial popularity but continuing to develop and enhance them. A comment that also applies to the reviewed here upgrade of innovative database program Microfiche Filer.

Games, however, are beginning to take on the rapid turnover that has applied to the 8 bit scene. This month half the top ten games in our chart are new which shows the accelerating pace of releases and of the trend of games buying. The speed at which the Amiga dimension is moving is clearly quickening ...

By the way, as a Buzzword DTP is already being replaced – by DTP. Desk Top Presentation is the phrase to drop if you want to impress. I am looking for someone to write about it for *AUI* so that we can all find out what it means ...

Antony Jacobson

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## TDC Expands European Operations

The Disc Company announces that it has entered into an agreement with Commodore Sweden for the distribution of the Kind/ Words Amiga word-processor. Commodore Sweden plans to bundle KindWords with every Amiga computer sold in Sweden.

"KindWords is already established as the leading Amiga wordprocessor in the United States, and we expect that it will attain the dominant position in Europe by the end of 1988", asserts Howard Marks, TDC Managing Director of International Operations. The program, manual, and packaging have been entirely translated into Swedish.

"We are very impressed with the quality of KindWords, and are excited to be offering it to our customers in an economical bundle", according to Håkan Sundberg, Technical Director of Commodore Sweden. "We applaud The Disc Company for translating this excellent program into Swedish", continues Sundberg.

Marks contends that Europe is clearly the leader in the Amiga worldwide market. "I have found a strong Commodore organization backed by distributors who primarily specialize in Amiga products," he said.

TDC has recently opened its European office in Paris, France, along with its European Technical Support Centre in Delft, The Netherlands in order to better serve the needs of European customers. In addition, TDC has retained the services of a number of translation firms to better localize products in nine foreign languages: French, Finnish, Danish, Dutch, German, Italian, Norwegian, Spanish and Swedish.

## SpectraScan

ASDA tell us that they are shipping their first batch of SpectraScans, their professional colour input system. They said it was expected to eliminate the principle weakness in Amiga based professional and desktop publishing by providing high resolution full colour image capture and manipulation capabilities to the Amiga 2000. SpectraScan is based upon the Sharp Electronics JX-450 colour scanner and ASDG's new Twin-X General Purpose Input/Output Board. This marks the first commercial product for the Amiga which employs the venerable IEEE-488 (GPIB) high speed interface bus.

ASDG supply their SBX-GPIB module which adds the GPIB capability to their Twin-X board as well as software drivers which will allow general purpose control over the GPIB bus. The GPIB module and Twin-X board are available as separate products

from ASDG and are expected to move the Amiga into industrial, commercial and laboratory applications.

The Sharp JX-450 is a flat bed scanner which accommodates colour originals up to 11 inches by 17 inches in size. With an optional mirror attachment it can also scan colour slides, negatives and transparencies. The scanner offers variable resolution from 30 to 300 dots per inch. Horizontal and vertical resolutions may be set independently of each other to produce pixels of any aspect ratio. The scanner will report 24 bits per pixel of colour information, resulting in a palette of 16 million colours. As the JX-450 lacks user accessible controls, operation of the scanner is completely controlled by the SpectraScan software.

PRICE: £7,500

Amiga Centre Scotland, 4 Hart Street Lane, Edinburgh EH1 3RN. Tel: (031) 557-4242.

## Compunet goes Green

Compunet has announced the appointment of Nick Green to the management of Compunet.

Nick has been brought in to develop Compunet's Open Systems policy. He has particular interests in data compression and in animation which will shape the future evolution of the Compunet design.

Green said: "By now we must have the largest library of 64/128 software in Europe with special tools for production of Compunet's famous demos in sound and animated high resolution graphics. The users are probably the most talented and technically informed on any online service."

"Last year the Amiga was selected by Compunet for support. Its superb presentation software interacts with hundreds of programs, demos, and text/graphics frames in our library as well as Compunet's standard-setting real-time chat facility (PartyLine) and multi-user game (Federation II)."

Nick Green went on: "Next year will be our year of the home and corporate PC user. We hope to make an announcement early in the first quarter of 1989."

Nick Green is a Cybernetician and a Chartered Engineer. Whilst at Commodore in 1981 he conceived the design specifications for Ariadne Software Ltd who implemented the first prototype system (PETNET).

Green tells us: "The Compunet data structure is a subset of the entailment structures of Conversation Theory (Pask 1976) and is instrumented as a subset of the Theory of Viable Systems (Beer 1981). There are no other public filestores (bulletin boards, Dialcom, Miconet, etc) using these formal cybernetic design methods. We're sure he's right! Contact: Compunet 01-997 2591."

## Free Spirit's Media Line

**Free Spirit Software Inc. has released Amiga Font Disk 1, the first in the Media Line series of Amiga art disks. Media Line Font Disk 1 contains nine different bitmap fonts designed for professional use in video presentation, graphics, animation and desktop publishing. These high quality fonts are very well suited for professional video work, such as titling and design, and can also be used for desktop publishing programs for headings, etc. All international characters are included.**

**Media Line Fonts were created by the award winning Danish designer, Tore Bahnson. Media Line Amiga Font Disk 1 is available from Free Spirit for \$34.95.**

**Contact: Free Spirit Software Inc., 58 Noble St, Kutztown, PA 19530 215-683-5609.**

## K-Spread 2 Down in Price

Kuma Computers have announced a lower price for their Intuition based spreadsheet K-Spread 2.

K-Spread 2 combines a comprehensive specification with the renowned ease of use of a Kuma product. It is ideal for serious users who want to get professional results with the minimum of computer knowledge. Users are further supported by free after sales support offered by Kuma on all their products. Business graphics facilities are included in K-spread 2 in addition to the wide range of financial planning functions.

The new lower price for K-Spread 2 is £59.95 including VAT and takes effect immediately.

Kuma Computers Ltd, 12 Horseshoe Park, Pangbourne, Berks, tel. 07357 4335.



## 250,000 Cycles

A new nine-ounce, 20 megabyte 2½in hard drive has been announced by Paritetek. With this drive, a company could deliver a 286-based system, including this hard disk and it would still only total around 6lb. Most 3½in hard disks come in at two to three pounds, adding a lot of weight to the product.

These conventional drives usually only have 20,000 on-off cycles, but the new drive has been tested for at least 250,000 cycles and has had no failures yet. This is important for the laptop market where machines are turned on and off much more often than desktop units. The unit will be available in some new laptops by mid-1989.

## Panmead Upgrades Businessware

Panmead tells us their newly released compiled Version of Businessware for the Amiga is faster, more user friendly and modular.

The new release is in 5 separate disks: Invoicing and

## First portable Amiga

**MICRO Momentum** have come up with a portable Amiga. Known as the **Journey Man**, it includes two 880K 3.5 in disk drives, 1Meg of Ram and a 7 inch internal amber monitor. There is room inside for a 5.25 inch hard disk and all Amiga I/O connections are available.

**CONTACT: Micro Momentum, 100 Brown Avenue, Johnston, R.I. 02919 Tel: (401) 949-5310.**

Sales Analysis £45.00; Sales Ledger £45.00; Inventory Control System £45.00; General Ledger £45.00; Purchase Ledger £45.00; Slip Case and Binder £5.00.

This version has several major improvements on the package e.g. help facility, Read Me first file and it also runs faster due to having been compiled. The existing end user can obtain the upgrade version (5 modules) for £25.00. Any new user will be given the new version based on their selection of Modules.

12 Seaford Avenue, New Malden, Surrey KT3 6JP  
Tel: 01-942 6512  
Tlx: 936227 RELAY I G

## Eliminator Amiga

Become THE ELIMINATOR! Says Hewson Software's John Phillips, author of the successful Nebulous, comes THE ELIMINATOR.

Hewson say Eliminator has "3D graphics, mind blowing action and state-of-the art 16 bit scrolling.

Hammer down the highway, spin to the ceiling, flip across the floor in this electrifying, death-defying, blood-arising action screamers. Hang on to your helmet as you spiral through the Galaxy to become THE ELIMINATOR." Well after that hyperbole we just can't wait — or can we?

## Amiga workstation

GfxBase has announced the price performance leader in X11 workstations. At Xhibition '88 in Cambridge, Massachusetts, GfxBase demonstrated X11 client and server implementations running native on the Amiga. GfxBase showed X running on standard Amiga 2000s and Amiga 500s networked with Ethernet.

The GfxBase implementation of X for the Commodore Amiga supports monochrome displays with up to 1008x1024 resolution, a variety of local clients, includ-

ing unimad xterm, and several communication protocols — TCP/IP, DECnet and local message passing mechanism.

As pointed out by GfxBase president Dale Luck, "X on the Amiga provides the most cost effective multi-tasking X workstation available. Additionally, since we support the Amiga's special graphics processors, the Amiga performance is comparable to a Sun 3/50 workstation."

Dale Luck was one of the original team that developed the Amiga before its acquisition by Commodore.

Contact: GfxBase, 1881 Ellwell Drive, Milpitas, CA 95035, 408/262-1469.

## Free Disk Radio

A 'personal' fm radio, designed to fit comfortably into the smallest pocket or handbag, is offered free by Verbatim with every five boxes of Datalife, Optima or Datalife Plus diskettes ordered from Action Computer Supplies. The radio is supplied complete with batteries, carrying case and headset.

At the same time, Action has reduced prices of the popular Verbatim diskettes. The price of Datalife 5.25in,

48tpi, DS DD, diskettes is down from £11.50 to £10.95 per box of ten one-off, with the £100+ price down from £9.19 to £7.69 per box. In addition, every box of these diskettes is currently supplied with an eleventh diskette free of charge.

The Datalife 96tpi, DS HD, (1.2/1.6MB) diskette for the IMB PC.AT costs £20.50 per box of ten one-off.

Contact: Action Computer Supplies, Abercorn Commercial Centre, Manor Farm Road, Wembley, Middx, HA10 1WL. Tel. 0800 333 333





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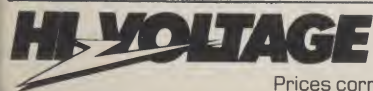
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## Activision enhances Music Studio

The Music Studio 2.0 for the Amiga, a significantly enhanced version of the comprehensive music "tool kit" offering both beginners and experienced musicians, the ability to create a wide variety of compositions. The Music Studio 2.0 combines the ease of use of the original version, plus more than 15 significant new features, including over 20 new digitised instruments.

New features include: Change key signature at any point in a song. Change tempo at any point in a song. Change volume at any point in a song. Play one or

more songs one after another with the "Jukebox". Change note stem direction by simply pressing the space bar. Merge songs. Insert measure bars. Automatically place consecutive numbers over measure bars. Change note duration for all notes of a specific duration.

Plus: Direct MIDI input to assist in rapid placement of notes and chords. New digitised sounds.

The Music Studio 2.0 allows for composition and editing with MIDI output.

The program's own library lets you hear and see songs by other composers. Lyrics are easily added to a song, and sheet music with accompanying lyrics can be printed through menu selections. The Music Studio 2.0 costs £24.99.

## Easyl art contest

Anakin Research Inc., of Rexdale, Canada has announced an International Amiga Easyl Art Contest. Anakin is the maker of the Easyl, the pressure sensitive graphics tablet for Amiga 500, 1000, and 2000 personal computers as well as IBM PC and compatibles. Since its introduction in 1985, the Easyl has proven very popular with artists, designers, animators, teachers and students. All of the thousands of Amiga users who have bought or used the Easyl graphics tablet are eligible to enter. Easyl users are invited to send their favourite Easyl generated images or animations of a 3½ inch floppy disk to Anakin Research. UK entries are being collected for forwarding by Precision Distribution, UK distributor for the Easyl.

A panel of professional artists and educators will pick the winning submissions. Prizes of \$500,000, \$250,000 and \$100,000 worth of Amiga software will be awarded to the first second and third winning entries respectively. Twenty runners up will receive Anakin T-shirts or coffee mugs. All entrants will receive a free Easyl Art Disk in return for entering.

Any Amiga picture in IFF graphics format (up to 1000 by 1000 pixels and up to 4096 colours), and any animation in any standard animation file format (such as ANIM, or compiled Pageflipper Plus F/X) will be accepted. Both PAL (European) and NTSC (North American) video standard images are eligible.

Entries must be postmarked no later than January 7, 1989. Final judging will take place on January 25, 1989.

UK entries should be mailed to: Easyl Contest, c/o Precision Software Limited, 6 Park Terrace, Worcester Park, Surrey KT4 7JZ. 01-330 7166.

## TDC Expands European Operations

The Disc Company announced that it has entered into an agreement with Commodore Sweden for the distribution of the KindWords Amiga - processor. Commodore Sweden plans to bundle KindWords with every Amiga computer sold in Sweden.

"KindWords is already established as the leading Amiga wordprocessor in the United States, and we expect

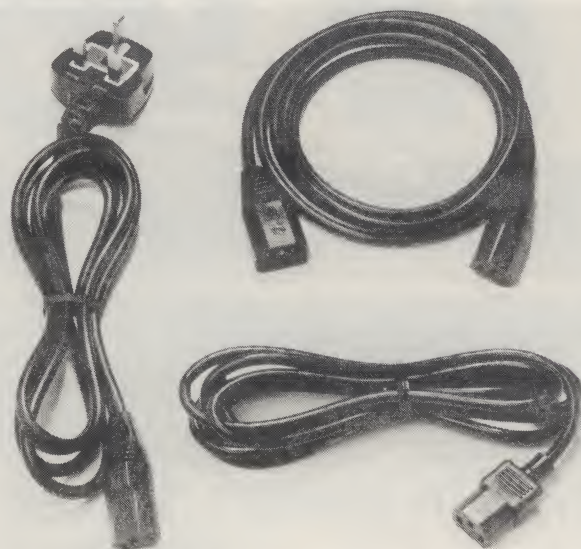
that it will attain the dominant position in Europe by the end of 1988", asserts Howard Marks, TDC Managing Director of International Operations. The program, manual, and packaging have been entirely translated into Swedish.

"We are very impressed with the quality of KindWords, and are excited to be offering it to our customers in an economical bundle", according to Håkan Sundberg, Technical Director of Commodore Sweden. "We applaud The Disc Company for translating this excellent program into Swedish", continues Sundberg.

Marks contends that

Europe is clearly the leader in the Amiga worldwide market. "I have found a strong Commodore organization backed by distributors who primarily specialize in Amiga products," he said.

TDC has recently opened its European office in Paris, France, along with its European Technical Support Centre in Delft, The Netherlands in order to better serve the needs of European customers. In addition, TDC has retained the services of a number of translation firms to better localize products in nine foreign languages: French, Finnish, Danish, Dutch, German, Italian, Norwegian, Spanish and Swedish.



## Action's Leads

Action Computer Supplies now offers tough and durable mains leads for computer and office equipment in three configurations: a standard mains lead with a three-pin (13 amp) moulded plug and a female IEC plug; a mains extension fitted with IEC male and female plugs; and a flying lead fitted with a single IEC plug. The 13amp and IEC plugs are made to BS 1363A and CEE 22 approved specifications respectively.

The leads are supplied in 2m lengths, but the IEC/IEC extension can be used with the standard mains lead where greater length is required. Prices are £8.50 for the standard mains lead, £7.90 for the IEC/IEC extension

and £5.00 for the IEC flying lead.

Action Computer Supplies is one of the UK's leading distributors of business equipment and supplies, with a product range including computer consumables, magnetic media, hardware, office automation and datacoms equipment, software and furniture. Action sells leading brand products at discounted prices directly to computer users through its 336-page free catalogue, and provides a free telephone service for orders, sales enquiries and catalogue requests on 0800 333 333.

Action Computer Supplies, Abercorn Commercial Centre, Manor Farm Road, Wembley, Middx, HA0 1WL. Tel. 0800 333 333;



# AN AMIGA CHRISTMAS WITH JUMPDISK

## JUMPDISK CHRISTMAS ISSUE

**DEC '88**

Vol. 3, Issue 12, No. 29

### PROGRAMS

#### SHOWSAY 2.0

This New Version of the Talking Desktop Presentation System Not Only Speaks As It Displays Pictures, But Will Show All Art, Including Icons

#### GREETINGS!

Cover Music  
'God Rest Ye Merry, Gentlemen'

#### LATENIGHT CHESS

This is a Human vs. Human Program for Mail, Modern Play (Not a Computer Opponent)

#### AMIGAMAZE

Watch Out for That Third Level

#### PUPPYPIX

Puzzle Game:  
Puppies and Pictures

#### KING'S CORNER

A Solitaire Game

#### DOS1SHOT

An iconized CLI

#### MAKENIFTY

Utility: Dress Up  
Amiga Text the Easy Way

#### LOOKFOR

Utility: Find That File, Though the Path Be Devious

#### PRINT

Multitasking Print Utility for Up to 999 Copies

#### FINDILBM

Auto-Search for ILBM Files

#### PUCKREV(Puck's Revenge)

Paddleball Game for Two

### ARTICLES

#### WORKBENCH 1.3 REVIEW

Out Of the Bag at Last With Some Surprising Changes

#### AMIEXPO LA

Little New But Much Fun

#### LATENIGHT CHESS

The Documentation

#### SHOWSAY DOCUMENTATION

Talking Desktop Presentation System Has Some New Talents

#### LOOKFOR

Finding Data on a Disk

#### DOS1SHOT

The Documentation

#### PC PURSUIT

Access BBSes Inexpensively

#### KING'S CORNER

Docs: Play to Win

#### PRINT

Multitasking Print Utility

#### FINDILBM

Auto-Search for ILBM Files

#### AMIGADOS PRIMER

Execute and Diskcopy

#### SPECIAL DISKS OFFERED FOR DECEMBER:

Chet Solace' Shareware Extravaganza  
Charles Dickens' 'A Christmas Carol'

#### TIPS ON THIS AND THAT

NASA BBS: Your Link to the Stars

PD DISKS £3.00 EACH

Fish to 162, AMUSE, TBAG

#### REVIEWS

Superbase Professional, Virus Infection Protection, Excellence, Fineprint, Sub Battle, WPLibrary Better Dead Than Alien, Perfect Sound, PCGrid Cubemaster, Seven-Toed Pete, Printmaster, Rocket Ranger

#### READERS' FORUM

You Give Your Answer

#### EDITOR'S THREE CENTS

Lashed to the MAST

**STILL ONLY £8.50 INC**

## £19.99 MEGA PACKS

### NEW! MEGA GAMES PACK – VOL. 1

Yes, at last it's available! Seven disks packed full of the best Public Domain, Shareware and our own games programs. All disks autoboot and all programs run on 512K. Battlemech, Bullrun, Super-Breakout, Gravattack/Cos (Wheel of Fortune), 3D Othello, Stoneage (Rockford Clone), Q-Bert, Crystal-Vision/Hack:(The Latest 3D Version of the Famous Dungeons Type Game) /Monopoly (updated version), Deluxburger, Asteroids, Mercenary Simulator, W/B Puzzle/Escape From Jovi, Amoeba Invaders, Missile Command, IFF2PCS/Battleship, Descender, Pacman '87, Tiles/Revenger of Doom (not PD or Shareware) new and original Space Arcade Type Game.

### NEW! MEGA DEMO PACK – VOL. II

7 disks packed with some of the greatest graphic and sound demos. We've even included an 'Intro Maker'. Now it's possible to make up your own intro screens using IFF sounds and pics. Messages may be displayed vertically and horizontally.

### STILL AVAILABLE! MEGA DEMO PACK – VOL. I

The original 7 disks pack of spectacular visual and sound demos. These should sell an Amiga to any Atari owner!

### STILL AVAILABLE! THE PD STARTER PACK

This best selling pack now includes 9 disks! The Goldfish (3 disks), Best of Amicus (4 disks) and our own Double Library Disk Pack. All for little more than the price of 9 Blank Sony Disks! There's no better way to find out about Amiga PD.

### NEW! A PACK OF EIGHT – NO. 1

Received just in time for the Commodore show, our first pack of eight features the latest Fish Disks – Nos. 155 to 162. These are the best we have seen to date and as with all our 'Packs of 8' there's a saving of £4.00!

### AVAILABLE ON JAN. 1ST 1989 – THE 'ALTERNATIVE' DEMO PACK

8 disks featuring a collection of the very best demos on PD. Includes old favourites such as 'Robot City' and many entries to the Badge Killer Demo Contest. We've searched over 600 PD disks in order to put this collection together! Please note that a minimum of 1 meg is required to run some programs.

## £4.99 SPECIALS

**THE JUMPDISK AUTUMN SPECIAL** is out now! Main features are: Amigantt – A Project Management Scheduler/Atlantic City Blackjack – includes Multiple Players, Strategy, Casino Specific Rules/Addicon – Assign Icons to Files/Catalogue – all the past issues of Jumpdisk.

**New! Shareware Extravaganza** – put together specially for Jumpdisk by Chet Solace this disk contains 26 programs of the best new software Solace found on the American bulletin boards during an intensive October foray. The disk contains about 1.5 meg of material stored in a highly compressed self-booting format. It is menu driven and ready to run with 8 colour Icons, Ansi text, animation and full documentation.

**Thoroughly recommended.**

**Interested in Amiga PD?** Then why not consider the **PD Library Pack**. Two disks packed full of information and articles plus the latest copy of our new PD news catalogue all for only £4.99 plus a £5.00 voucher that may be used against the first purchase of 10 or more PD disks.

**THE JUMPDISK 'DOUBLE'**  
THE CHRISTMAS ISSUE OF JUMPDISK  
WITH ANY ONE OF THE **£4.99** SPECIALS  
FOR ONLY **£12.50 inc.**

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## COMMODORE AMIGA 500



Pack Includes:

A500 CPU, Mouse, P.S.U., T.V. Modulator, Very First Tutorial, Workbench 1-3, Basic, Extras and Manuals.

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**WORTH OVER £250** which includes 10 Blank Disks, Disk Storage Box, 10 Excellent Games, Mouse Mat, Mouse Bracket (Mouse Holder) Deluxe Paint.

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### AMIGA 500 PLUS DISK DRIVE

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**£449.00** + £5.00 post and packing.

### AMIGA 500 + 1084S STEREO/ COLOUR MONITOR

(including the Amiga 500 deal) **£649.00**  
+ £10.00 post and packing



## MPS 1500C



## MPS 1200P

### MPS 1200P

**£229.99**

+ £5.00 post and packing

The Commodore MPS1200P printer presents the state of the art in dot matrix printers, with all the features of a printer that would cost much more. The MPS1200P is designed to be like three printers in one. It can act just like an Epson FX printer, or with the flip of a switch, it can act just like an IBM Graphics Printer with IBM Group II-I character set (Danish/Norwegian character set) support. It can also print all the characters available with the Amiga in the Amiga configuration. The MPS1200P is capable of all the printing functions you would expect, as well as some additional features you may not expect.

### MPS 1500C COLOUR PRINTER

**£199.99**

+ £5.00 post and packing

#### A. TECHNICAL CHARACTERISTICS

PRINTING TECHNIQUE ..... Impact dot matrix (9-needle print head).  
DRAFT MODE ..... — matrix: 9 vertical dots x (5 + 4) horizontal dots; — print speed: 120 char/s, at 10/char in  
TABULATION SPEED ..... 2 char/s  
PRINTING DIRECTION ..... bi-directional, with optimised head movement  
PRINT PITCHES ..... 10 char/in to 24/char/in programmable from line, and in SET-UP mode  
LINE FEED ..... — 1/6in (4.23 mm), 1/8 (3.17 mm) and 7/72 in (2.4 mm); — n/216 in and n/72 in.  
CHARACTER SET ..... ASCII characters and special characters.  
MAX. PRINT LINE LENGTH ..... 40 top 192 characters, according to print pitch selected.



### 1084 HIGH RESOLUTION COLOUR MONITOR

### 1084S STEREO/COLOUR MONITOR

Compatible with PC,  
Amiga, C64c, C128

**£259.00**

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Amiga 3.5" external drive. Capacity 880K

**PLUS FREE DISK  
STORAGE BOX &  
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## Comic Setter gets TV

Television South were so impressed with the Comic Setter product from Gold Disk that they asked HB Marketing to arrange to demonstrate it on their Saturday morning children's program MotorMouth on 29th October.

Keith Howell, one of HB Marketing's directors, was involved in the presentation which included a contest between him and a young 13 year old computer buff to see who could create the best comic page in the duration of the show.

"Live television is certainly nerve racking" was Keith Howell's reaction to the event "but the opportunity to get 6 minutes of free prime national TV airtime is something that any

marketeer can never turn down."

"Although Comic Setter is shown as laying out comics for the domestic market it is actually a very sophisticated desk top publishing package that can be used to layout story boards — any company, school etc can use it to create pages of visual stories. At £69.95 inc VAT, Comic Setter represents good entertainment value for the whole family."

To complement Comic

Setter, Gold Disk have released 3 different "Clip Art" disks filled with ready made cartoon images: Super Heroes, Science Fiction & Funny Figures. Each of these comes with 2 disks packed with backgrounds, figures and props at a cost of £24.95 inc VAT.

Contact: HB Marketing Ltd, Brooklyn House, 22 The Green, West Drayton, Middx. UP7 7PQ. Tel: 0895 444433 Fax: 0895 441962 Tlx: 934689 HBMK.



## Sex Vixens from Space Banned in Britain!

The latest shipment of Sex Vixens from Space, Free

Spirit's popular adult game for the Amiga, has been impounded by the U.K. authorities. While other packages in the shipment have been released, it appears that the porn squad will destroy the Sex Vixen packages. The Airport 'C25 Squad' is reported in saying the decision to stop the software was made on the grounds of 'protecting the

youth of today'. Precision Software who were importing the game said: 'The closest you get to seeing anything is in your head. They've probably not even seen it, unless they had an Amiga on hand at the Airport'.

John Hubbard, President of Free Spirit Software, Inc, said: "While Sex Vixens from Space may be a bit racy, it is not pornographic.

Apparently, the British authorities are either quite prudish or completely lacking a sense of humour. Regardless, freedom of artistic expression and the freedom to disseminate such are cornerstones of democracy. The act of seizing these games is the act of a fascist government."

Contact: Joe Hubbard, Free Spirit Software, Inc, P.O. Box 128/58 Noble St, Kutztown, PA 19530,



## AudioMaster II

ONE of the new Aegis products is Audiomaster II, sound sampling software for all models of the Amiga. As its name suggests, the program is an update of their AudioMaster, released last year. The minimum requirements of the system are 512K of RAM and one disk drive.

Using AudioMaster II any sound may be digitally recorded from a microphone, stereo system, CD, tape player, or any other audio source. The software works independently of hardware and may be used with any sampling device that uses either the Amiga parallel or joystick ports. AudioMaster II features digital sampling rates of up to 56K per second (though for this speed you will need a 68020 chip) and in-

cludes full stereo support. Two waveforms make editing in stereo as easy as in mono, allowing almost limitless changes to be made to any sound.

Peter Norman, the programs' author, told us, "Rules have been broken and many new features have been added to provide you with what I believe is the most advanced, user-friendly sound sampling and editing package ever written for the Amiga."

users of AudioMaster will be notified by mail of the upgrade. This will cost them 30 dollars through Aegis Development Inc, if they are registered owners.

CONTACT: Aegis Customer Support Dept. Tel: (213) 392-9972.

## Novagen's Hellbent

Hellbent, for the Amiga, is due for pre-Christmas release from Novagen.

Hellbent is Novagen's third 16-bit release, following on from Mercenary and Backlash, and is their first to be programmed by other than Novagen's 'proprietor', Paul Woakes.

Newcomer, Donovan Prince, is the man who gained the Woakes 'seal of approval'. Graphics artist is

Mo Warden. (It's her work in Backlash, which you mostly can't see because of the speed!) Hellbent is super-fast scrolling arcade action.

There are some technical features which suggest that Paul Woakes has taken more than a passing interest in the project. Could this be the reason we're still waiting for his next offering, "Damocles"?

## Viking 1

COMMODORE and the American company, Moniterm, have got together to introduce a

new monochrome monitor for the Amiga 2000. It has a high resolution 19 inch screen. Called the Viking 1, the monitor is designed to expand the Amiga's capabilities for

sophisticated applications when a high resolution, non-interlaced monitor is preferable, such as with desktop publishing, CAD/CAM and financial applications.

The Viking 1 has a 63 Hz refresh rate and its 19 inch diagonal screen size allows two full facing pages of text and graphics to be displayed at once. It can accommodate a B-size engineering drawing or

a thirteen month spreadsheet with 68 rows and 138 columns. The Viking 1 will support previous, lower resolution modes (640 x 400 and 320 x 200) in a non interlaced environment.

PRICE: \$1,995

Contact: Moniterm, 5740 Green Circle Drive, Minnetonka, Minnesota 55343. Tel: (612) 935-4151.

## SIREN SOFTWARE

NEW

NEW

### ★★★ AMIGA SOUNDBLASTER ★★★

The AMIGA SOUNDBLASTER is a small stereo amplifier that comes complete with 2 high quality 20 WATT 3 way speakers. It is easily connected to your Amiga 500/1000 and adds a new dimension to all games.

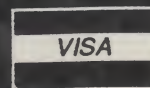
Everyone knows that the Amiga has the best sound facilities available on any popular computer today. Unfortunately until now, unless you could connect your Amiga to your stereo system you could not appreciate the quality of the sound.

- ★ Comes complete with 2 high quality stereo speakers
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- ★ Very easy to connect
- ★ Compatible with all software/hardware

- ★★ Free stereo headphones with all orders for a limited period ★★

**Amiga Soundblaster is just £39.99**  
including VAT and P&P

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**84-86 PRINCESS ST, MANCHESTER M1 6NG**





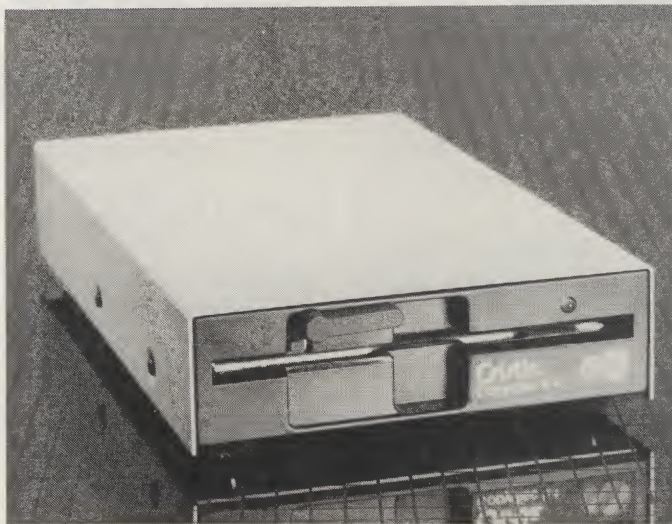
## From 5¼" to 3½" — and back

Cristie have launched a Copydisk unit which allow data to be interchanged between standard 5.25in drives and the 3.5in standard drive.

The Copydisk Series consists of six units which between them are claimed to support nearly every known PC and compatible. It ranges from the Copydisk 3, which has a capacity of 720KB and supports IBM PC/XT and compatibles, to the Copydisk 5+. This has switchable 360K/1.2MB capacity, and supports all IBM AT and PS/2 systems.

Copydisk units are connected to the floppy controller via simple adaptor cables, so do not take up extension slots in the computer. Prices range from £240 for the Copydisk 3 to £339 for the Copydisk 5+.

Contact: Action Computer Supplies, Abercorn Commercial Centre, Manor Farm Road, Wembley, Middx. HA0 1WL. Tel: 0800 333 333.



## Emerald's MAGELLAN Newsletter

Emerald Intelligence have announced the introduction of MAGELLAN Update, a monthly newsletter for MAGELLAN users. The newsletter will include feature articles on artificial intelligence in general, and on MAGELLAN specifically. In addition, new product announcements, special offers, productivity tips, highlights from the bulletin boards (both Emerald's

MAGELLAN board and the national boards), and any other pertinent tidbits will be included.

All registered users will receive a one year complimentary subscription to MAGELLAN Update list. Subscriptions to MAGELLAN Update are \$10.00 per year (12 monthly issues) for U.S. addresses, \$15.00 U.S. per year for Canadian addresses, and \$20.00 U.S. per year for all other foreign addresses.

Contact: Dean Corbitt, Emerald Intelligence, 334 South State Street, Ann Arbor, Michigan 48104. (313) 663-8757.

## TDC's A.U.G. Representative

The Disc Company has established a "User Group Representative" program in order to strengthen TDC's relationships with Amiga User Groups throughout the world.

Under the program guidelines, TDC will select an Amiga enthusiast who will serve as a liaison between The Disc Company and his/her Amiga User Group. Responsibilities of TDC's User Group Representative include conducting product demonstrations at user group meetings and local trade shows, testing new products, finding and submitting innovative software programs to TDC for possible publication, and additional duties relating to the promotion of TDC's products. An attractive compensation package has been devised for TDC's User Group Representatives, including free software, cash and prizes, and an opportunity to preview new products prior to their public release.

Dr. Patrick Bailey, who has been involved with the development and use of computer systems since the early 1960s, is one of TDC's first User Group Representatives. A graduate of MIT with an MS and PhD in computational numerical physics, Dr. Bailey is currently working at Lockheed, where he oversees the safe and peaceful applications of nuclear power in space. An avid Amiga computer user, Dr. Bailey conducts "The Amiga Class" in the San Francisco Bay area, and is also president of the AMIGA Science and Technology User's Group.

People interested in participating in TDC's User Group Representative program should contact: Jack Edelstein at (313) 665-5540.

complete Lattice C package is £210.00 plus VAT.

Contact: **METACOMCO**, 26 Portland Square, Bristol BS2 8RZ, UK, Telephone Bristol (0272) 428781.

## Major Upgrade of Lattice C for Amiga

Metacomco has announced the release of Version 5.0 of the Lattice AmigaDOS C Compiler which features an integrated editor and compiler, a new source-level debugger, global optimiser, significant enhancements to the compiler and Blink overlay linker, plus many new utilities.

Now available, Lattice C for AmigaDOS Version 5.0 gives full support for 68020 and 68030 processors and 68881 math co-processor chips. It features many faster library routines resulting from improved algorithms

and assembly-language coding, and it offers improved ANSI compliance. Several new keywords are introduced in this version including "near" and "far" which allow programmers to mix the way data is addressed regardless of the memory model used. New options give users the ability to instruct the compiler to generate code sequences optimised for either program size or execution speed.

The Lattice Screen Editor (LSE) is now part of the compiler package. The compiler can be called from within LSE to compile a C source file from memory and display any error messages with the cursor positioned on the offending line. Programmers can stop the

compiler and make the change immediately or can continue the compilation; LSE will redisplay the errors and reposition the cursor and lines containing errors.

For users with an additional 20 kilobytes memory. Lattice includes a "big" version of the compiler which will generate prototype files of all functions encountered in a module. The big compiler also provides full listing abilities including macro expansion display, nest level counting, and include file listing. Metacomco includes the Compiler Companion which consists of the UNIX-like utilities DIFF, EXTRACT, BUILD, FJLES, GREP, LMKL (Make), SPLAT, TOUCH, WC and CXREF. The suggested price of the



# Evesham Micros

*All prices include VAT/delivery*

## SPECIAL OFFER AMIGA PACK

Our new special offer pack includes the following:

- ★ Amiga 500 computer
- ★ TV Modulator
- ★ Mouse & Mouse mat
- ★ Joystick
- ★ Photon Paint
- ★ Karate Kid II
- ★ Sky Fighter
- ★ Grid Start
- ★ Demolition
- ★ Quizam!
- ★ Black Shadow
- ★ Las Vegas
- ★ plus 5 disks of public domain s/ware

The total retail value of extras supplied is £270.45.

**All this for only £399.00!**

Pye 1518 FST TV/Monitor with Fastext, digital tuner (40 presets), and full infra-red remote control. Connection cable supplied ... £249.00  
Philips CM8833 colour monitor suitable for Amiga 500 ..... £229.00  
Philips CM8852 monitor as above, but higher resolution ..... £299.00  
Philips TV Tuner AV7300, use with any composite monitors ..... £79.00  
Word Perfect ..... £149.95  
Superbase Personal ..... £69.00  
Superbase Professional ..... £179.95  
Logistix ..... £79.95  
Amiga 500 Dust Cover, protect your computer ..... £4.95

## Cumana 5.25" External Floppy Disk Drives

(model CAS 1000 S)

We are now supplying whisper quiet slimline 5.25" floppy drives for the Amiga user from Cumana. The 'Transformer' compatible drive features an integral power supply, 40/80 track switching, 360/720K formatted storage capacity and throughport connector. It also has an on/off switch which effectively unplugs the drive from the Amiga when it is not required.

**Only £159.95**

## Project



disk backup utility

**Only £34.95**  
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Probably the best and most complete 3.5" disk copier for the Amiga user. Can even copy MS-DOS, Atari ST, CP/M, Xenix and Archimedes disks. Because of the high specification of the Amiga drive, this copier is probably the best for the Archimedes or ST. Also includes track editor. Updates will be available in the future as and when new software protection schemes arise.

## 3.5" Disks

10 Bulk packed DS/DD 3.5" disks with labels, fully guaranteed ..... £11.95  
25 bulk disks as above ..... £27.95  
10 disks as above with plastic case ..... £13.95  
25 disks as above, with 40 capacity lockable storage unit ..... £34.95  
Verbatim DS/DD disks, top quality media with lifetime guarantee. Box of 10 only ..... £19.95  
SKC MF2DD DS/DD 3.5" disks. Box of 10 ..... £17.95

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LC10



Hugely successful 9 pin printer, the Star LC10 provides 4 NLQ fonts (with 96 print combinations) at 36cps and 144cps draft. Has a large 4K buffer and IBM/parallel interface built in, includes a comprehensive front panel operation and features paper parking, allowing single sheets to be used without removing tractor paper.

**star**

We use and recommend Star printers since they offer an unbeatable combination of features, print quality, reliability and value. Make the sensible decision - get it right with a Star printer at our special, all in, prices.

**Only £219.00**

Colour version also available,

**Only £269.00**

Prices include 2 extra black ribbons free of charge.

Star LC24-10 feature-packed multifont 24pin printer ..... £339.00  
Star NB24-10 24 pin printer 216/72 cps, including cut sheet feeder and 2 extra ribbons ..... £499.00  
Star Laserprinter 8 high specification 8ppm / 300dpi laser, (price inc. 1 year on site maintenance) ..... £1795.00  
Panasonic KXP1081 reliable 9pin 10" printer 120/24 cps ..... £169.00  
Panasonic KXP1124 good quality new multifont 24pin ..... £319.00  
Epson LX800 popular 9pin 10" 180/25cps ..... £199.00  
Epson LQ500 24pin 10" 150/50cps ..... £319.00  
NEC P2200 budget 24 pin 168/56cps ..... £319.00  
NEC cut sheet feeder for P2200 printer ..... £69.00  
Citizen 120D budget 9pin 10" 120cps ..... £139.00  
Citizen 180E budget 9pin 10" 180cps ..... £199.00  
Citizen HQP-45 bargain value wide carriage 24pin ..... £399.00  
Hewlett Packard 'Deskjet' inkjet printer 240/120cps ..... £749.00

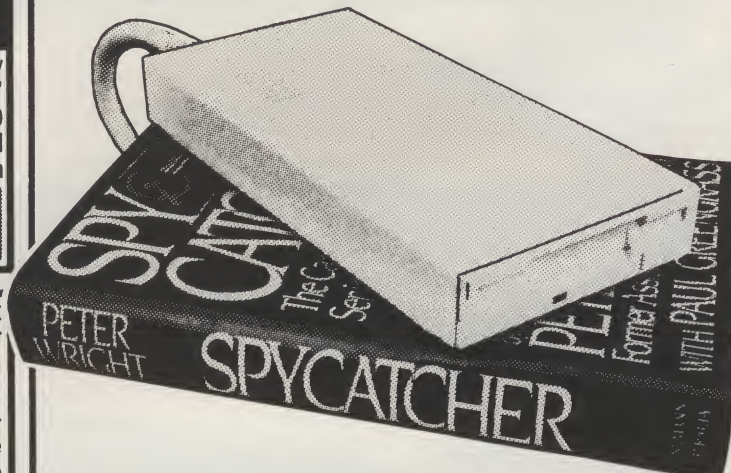
## DOUBLE TAKE! PYE 15" FST TV/MONITOR (MODEL 1102)

Super quality, stylish medium resolution FST colour TV/monitor to suit the Amiga or ST. Features full infra-red remote control, Euroconnector, Video/Audio input and headphone output connectors, 40 tuner presets, external aerial connector and a loop aerial. Supplied with cable (please state computer type when ordering).

**SPECIAL  
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Includes VAT  
and computer  
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## Mannesmann Tally's new Entry-Level Laser Printer

Europe's largest printer maker Mannesmann Tally, claims to have widened the market for laser printers following the launch of an entry level 6 page-a-minute machine priced at £1395.

Offering HP Laserjet Series II compatibility, MT think the new printer will attract, in particular, users of daisy-wheel and dot matrix machines wishing to upgrade to laser technology.

Called the MT905, and designed for word processing, spreadsheet and DTP applications, the new printer will spearhead Mannesmann Tally's drive to double its 4 per cent share of the current UK laser printer market.

It offers users an engine life-cycle of 300,000 pages, 512Kb of standard memory and expanded memory boards of 2 and 4 Mbytes. Additional features include a small footprint, 2 optional font cartridge slots and a duty cycle of 5000 pages per month. Resolution is 300x300 dots per inch.

It offers three resident interfaces including RS232, RS422 and Centronics parallel. Communication proto-

## Project D Version 1.1

Fuller Computer Systems has announced the release of the most INTEGRATED DISK UTILITY SYSTEM.

This product provides you with a tool to inventory software, including NON-Amiga products. Project D, **CatalogTool**, allows you to create and maintain a library of all software, reference programs, files and disks by category classifications

(games, music, graphics, letter correspondence, you name it). The **CatalogTool** is a disk indexing utility that lets you keep track of your personal, commercial and public domain disks.

This release also includes the following:

**The Editor Tool** — a disk editor for examining or modifying disk data from the AmigaDOS level to the Raw MFM data level, allowing you to view the data through than ASCII window.

**The BackupTool** — an all-purpose Amiga disk copy

utility for both normal and protected disks. **The Omni-Tool** — a special format copier for duplicating MS-DOS/PC-DOS, Atari ST, CP/M and Xenix formatted disks.

**Harddisk:** You can load Project D to hard disk and run from the hard disk.

Fuller Computer Systems incl., PO Box 9222, Mesa, AZ 85214-0430 (602) 835-5018.

## MAGELLAN User Group Discount

Emerald Intelligence have announced a special user group price on MAGELLAN of \$135.00 including shipping. To take advantage of this offer, group members must supply some proof of membership, such as a

photo copy of a membership card or of a current membership receipt. Orders must be placed by mail, directly with Emerald Intelligence. One discounted copy of MAGELLAN per member only.

Registered users of MAGELLAN receive free updates for a year from purchase date, access to Emerald Intelligence's MAGELLAN BBS, and a complimentary

col and transmission speed are easily configured via the front control panel menu, said the company. Emulation options by cartridges include Diablo 630, IBM ProPrinter and Epson (FX).

Included in the price are 150 sheet input and output cassettes and manual feed. Courier medium, bold and

line printer fonts come as standard, and a range of HP compatible font cartridges are available as options. These, say the company, offer twice the capacity of HP fonts and at a lower cost.

Contact: Mannesmann ally, Millar's Lane, Wokingham, Berkshire. Tel. (0734) 788711

subscription to MAGELLAN Update, the monthly newsletter for MAGELLAN users and developers.

Contact: MAGELLAN User Group Offer, c/o Emerald Intelligence Inc, 334 S. State St, Ann Arbor, MI 48104.

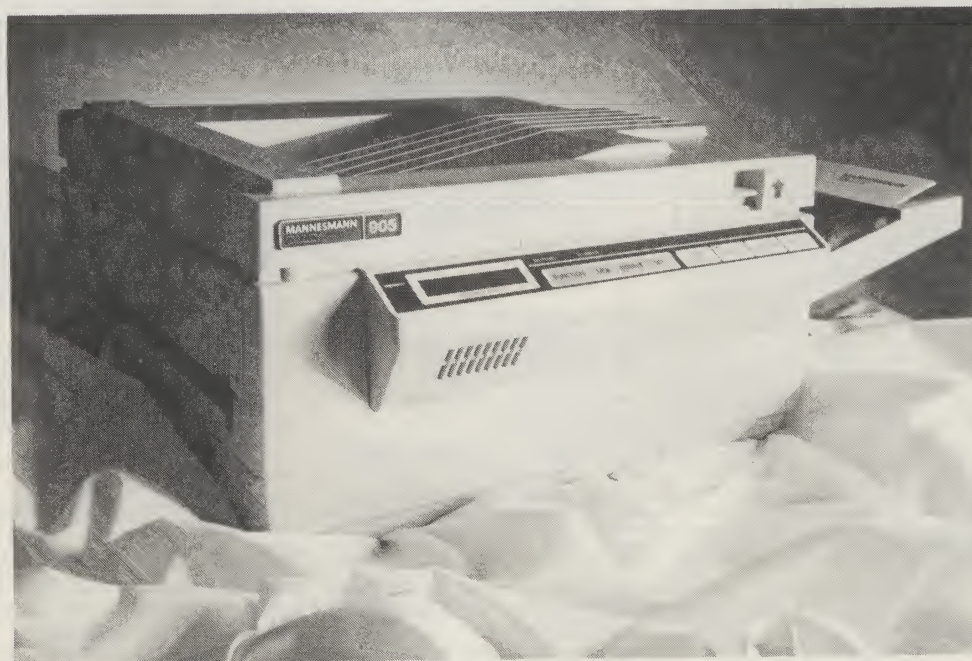
## Aegis Draw 2000

ANOTHER product Aegis Development have superseded is Aegis Draw Plus. This popular CAD program is being replaced by Aegis Draw 2000 as Aegis' high end design system for the Amiga. The minimum hardware configuration is 1Meg of RAM and two disk drives.

The package includes two versions of Draw 2000: one for use with the standard Amiga 68000 processor, the other supporting the 68020/68881 coprocessor board (making the overall speed of the program increase by as much as 70 per cent). The ability to display drawings in Workbench windows, thus increasing the number of drawings which can be displayed at one time and the speed at which they are drawn, is also included. Aegis say that all reported bugs have also been corrected.

Aegis Draw and Draw Plus registered owners will be offered an upgrade to Draw 2000, with Draw Plus owners being given the opportunity to receive a free Draw 2000 manual as a replacement for their current two manual set. The upgrade fee is 20 dollars inside the U.S. and 30 dollars elsewhere (including handling and shipping). Upgrading from Aegis draw will cost 150 dollars.

CONTACT: Aegis Development Inc. Tel: (213) 392-9972





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# DESIGNING IN

*Rico Gusman recently visited the National Graphics Exhibition at Olympia to gaze at what is new for the graphics industry, and how the Amiga compares to systems costing hundreds of times more.*

**T**he world of computer graphics is still a very new and exciting medium. However not only is its influence growing in an increasing range of creative commercial activities, it is now claiming a place of equal stature with all the other forms of art. Every day when we switch on the TV, we are subjected to its latest designs in the news or in adverts.

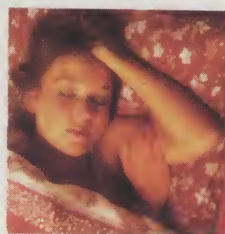
Without doubt the most sophisticated system to date must be the Quantel Paintbox. A name today synonymous with computer generated quality graphics, this system is truly amazing. Quantel is very quick in operation and a few months ago the BBC gave six leading 'conventional' artists the opportunity to use one in their own way, the results were interesting, even exciting. In many ways I would defy people to tell that the images created on the paintbox are computer generated. The Quantel is aimed at the very top professional studios as it can produce colour proofs of artwork in minutes that would normally take hours and hours to do manually. However there is one drawback to the system — the price, which starts at a mere £300,000. Not the sort of thing you would ask for at Christmas!

An example of the machine's quality could be seen recently when BMW made an advert for their Series 5 saloon range, in which the old model slowly changes into the new model as if it is melting into the new shape — **AMAZING!**



**DREAMS**

Using a combination of airbrush, wash and stencil techniques together with the display type generated on the Graphic Paintbox, this image was assembled and retouched in approximately 30 minutes. Note that the reflective qualities of the windows have been maintained.



# AUTO MOBILE

**"I would defy people to tell that the images created on the paintbox are computer generated."**



# A DIGITAL WORLD



Coming down in price but still out of reach of most of us is the Letraset system. This uses a light-pen and is not unlike an Amiga system in operation. The resolution is excellent and colours are very sharp with a palette of some 16 million shades. I would have bought this as it was a measly £28,000 but I thought the editor would say something about my expenses.

There were other systems at the show but none of them seemed to be better than an Amiga and yet they commanded massive prices. . . Tut, Tut, come on chaps get your act together! (Or someone may be making lots of cash from non-Amiga users!)

To be very honest, an Amiga with the right software and hardware could out perform most of the systems on display at the show for a fraction of the cost, so don't throw away your 68000 machines yet.



## GRAPHICS ON TV

If you live in the UK, you probably have all seen the famous 'Smarties' ads on the television involving comprehensive computer graphics or the credits to Channel 4's 'Wired' or you may have seen the 'Access' AD. Well these all came from a company called DIGITAL PICTURES. They were formed in 1982, based at the Slade School of Art. A year later they moved to premises in Covent Garden. Today they have a staff of about 17 made up of artists, designers, producers, programmers, engineers, mathematicians and computer scientists using a Data General MV10000SX mainframe computer which is the networked to a Silicon Graphic IRIS 2400 real-time animation suite and 10 colour broadcast workstations. All of their work done in-house and they tailor their software to customers' requirements.

Their work speaks for itself. At present they are currently in discussion with designers on a full motion picture involving very sophisticated animated techniques.

The development of the recent past and computers like the Amiga have made computer graphics more and more accessible to us all and a part of our everyday lives. Undoubtedly the next year or two will see very significant advances in computer graphics. . . I will keep you posted!

R.G.





## Liquid Light Upgrades Imprint

American Liquid Light has begun shipping Version 3.0 of its Imprint system for interfacing the Amiga to the Polaroid Palette film recorder. Imprint generates slides, negatives, transparencies, or instant prints — with an optional film back, the system can even produce 35mm motion picture films.

Designed to develop visuals from HAM, IFF and DigiView's RGB-IFF files, Imprint 3.0 can expose images composed in over 16 million colours. A number of film types may be used with the system, including Polachrome, 669/691/665, Polapan, Polagraph, Type 339, Ektachrome, Agfachrome, Fujichrome and Presentation chrome.

Imprint 3.0 software controls all the camera functions. Users can "stamp" their images with text, sequential numbers, and the time and

date. The batch processing mode has been upgraded to support continuous exposure of up to 36 images, unattended.

Imprint's Snapshot utility allows the user to expose images directly from an application with a simple sequence of keyboard commands. Snapshot now supports Hold and Modify, so users can make exposures from Microillusion's Photon Paint or DigiView's DigiPaint, for example, without having to first save the file to disk.

"Simply put, we made Imprint versatile, so the user can be creative," says Nicholas Vassilakis, president of American Liquid Light. "With Version 3.0, our color support is better than ever, and we've added significant features while maintaining ease-of-use."

Pricing for the Imprint adapter is \$495. The upgrade to version 3.0 is available to registered users for \$125.

Contact: American Liquid Light, 2301 West 205th Street, Torrance, CA 90501; 213/618-0274.



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## Price Waterhouse's Virus Handbook

Leading management consultants Price Waterhouse have published *The Complete Virus Handbook*, a comprehensive guide to the threats posed by individual viruses and an evaluation of available antidotes or "vaccines".

The threat of viruses says Price Waterhouse is infinite. They can bring systems down completely, wipe out years of memory which stores essential data, or trigger computer-dependent action such as share dealing or national defence alerts. The cost to businesses of shutting down systems, replacing software and re-inputting data can be immense.

The Price Waterhouse Complete Computer Virus Handbook explains the risks, describes how viruses get into systems, indicates the symptoms which should cause concern, and identifies detection techniques. There is a section on software tools designed to prevent or detect virus attack.

David Frost, the partner who masterminded the Price Waterhouse research, explains:

"Recent reports have shown that software houses are particularly vulnerable to virus threats. The consequences of an attack could have a serious impact on the future of a software house and its reputation in the marketplace."

"We are particularly concerned that the increasing sophistication of those who invent and introduce viruses will mean that no vaccine is 100% effective."

"In the longer term we are worried about indications of the interest of

"organised crime" in computer systems. The potential threat to international business is inconceivable. Computer professionals must act now, and we welcome feedback and participation from all who are interested in preserving the integrity and reputation of the computing industry."

The Price Waterhouse Complete Computer Virus Handbook is available from David Frost, Price Waterhouse, 1 London Bridge, London SE1 9QL. Tel: 01-378 7200. Price £15.



## Orbiter workstation

Rexel's new Orbiter workstation, a compact and stoutly built unit available from Action Computer Supplies at £169.00, is one of a few series of Rexel units designed to provide maximum facilities for computers in minimum space.

The top shelf has cable cut-out for vdu and cpu, and the roll-out keyboard shelf, which has a vertical clearance of 65mm, is fitted with an anti-static mat. The printer shelf has a detachable paper catch-basket, and there is a bottom shelf to carry continuous stationery.

The Orbiter is made from tubular steel, with shelves finished in 18mm wipe-clean grey laminate, and it is fitted with easy-glide castors, two of which have brakes. Overall dimensions, excluding the paper catch-basket, are 750mm(W) x 750mm(H) x 525mm(D).

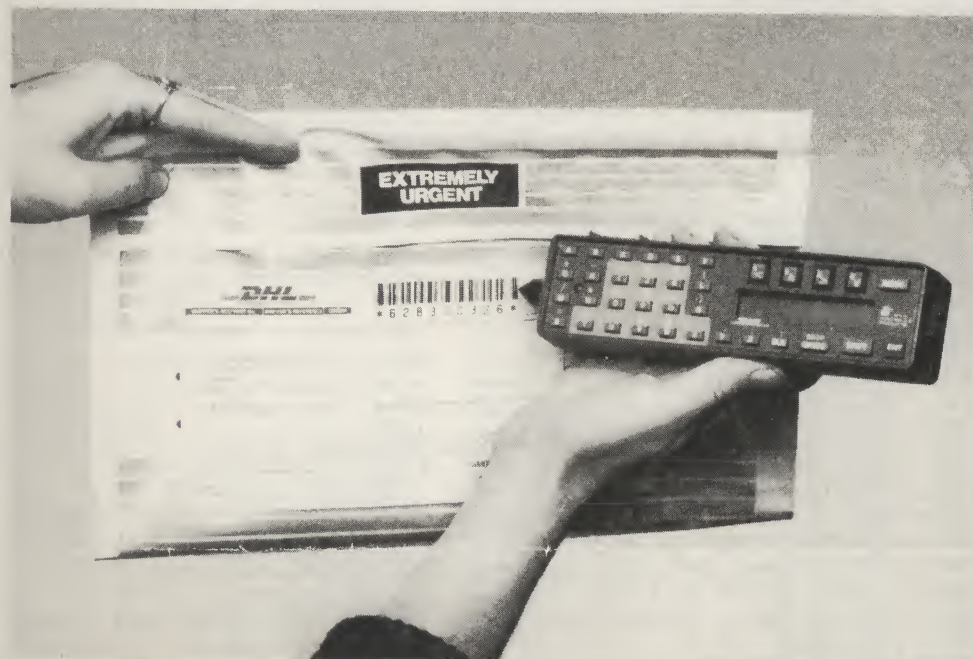
Contact: Action Computer Supplies, Abercorn Commercial Centre, Manor Farm Road, Wembley, Middx. HA0 1WL. Tel: 0800 333 333.

## LASER SCANNER FOR COURIERS

DHL is introducing Laser Scanners to give greater reliability and better control in the handling of clients' shipments.

DHL's Laser Scanners are about six inches long and look like a pocket calculator. They use laser light to read the unique bar coding at the top of every airway bill, similar to the lasers now being used at checkouts in some supermarkets.

Every DHL courier will have a Scanner. When a delivery is made detailed information about the shipment is fed into the Scanner's memory. This information is passed to a computer system which will eventually span the globe.





# MICROFICHE FILER PLUS

*John Walker examines an upgraded version of an interestingly innovative program*

New ideas in computing are rare. Most games are variations on the three originals of Space Invaders, Pac-Man and Donkey Kong. In business, the Big Three applications — word processing, spreadsheet and database management — have only recently been joined by a fourth, desktop publishing.

So it is good to be able to welcome something as innovative in form as Software Visions' Microfiche Filer Plus. MFF+ is, basically, nothing very original, since it is a flat-file, memory-based database. Its novelty and utility lies in its approach to storing and manipulating data.

Just as the Amiga's Workbench resembles a computerised graphic version of a desk-top, complete with files and drawers to open, so MFF+ is based on that miniaturised method of presenting information, the microfiche.

A microfiche consists of a transparent sheet of celluloid containing photographs of documents reduced to postage stamp proportions. In this way, you can put many pages of a document on one sheet. In order to scan it, you slip the sheet into a reader that magnifies each page to its original size. By shifting the position of the magnifier, you can read all the pages.

MFF+ transfers the notion to the screen. The database is organised as a sheet of text and pictures, represented by a small unreadable rectangle in the top right hand corner of the screen. A square on the rectangle represents a magnifying glass. The main part of the display is taken up by showing that portion of the database which is under the magnifying glass. By moving the computerised glass around with the mouse-pointer, you can quickly scan the whole database. Where MFF+ scores over a conventional microfiche is that the way data is presented can be changed instantaneously, and more detailed information can be shown on screen at the click of a mouse button. Only on the Amiga, with its blitter shifting large chunks of memory

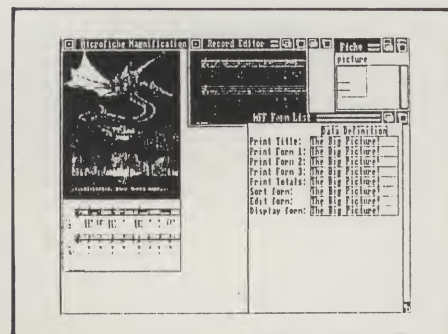
around, could MFF+ work so swiftly and efficiently.

The program is an enhancement of Microfiche Filer which was published last year. It comes on one unprotected disk together with a well-written, indexed manual and will run on any Amiga with 512K of memory, although the amount of information you can store on such a machine will be somewhat limited. To make best use of the program you will need at least 1 Mbyte of RAM. The disk also contains some sample databases, including an invoicing system which shows how many different reports — from invoices to receipts to mailing labels — can be created from one straightforward entry of information.

MFF+ improves in many ways on the earlier version. It is faster, particularly when redrawing the screen display. Databases created with Microfiche Filer are compatible with MFF+, but you can't use an MFF+ database with the old program.

***"One feature from the original has been removed — you can no longer copy a record or form by dragging it, which proved to be both a memory-intensive and confusing operation"***

You can now format numbers, include the date, and perform automatic calculations, useful additions for business purposes. MFF+ no longer has the 32-colour limitation on graphics. Any IFF compatible picture of any size, including HAM images, can be stored. Now you can not only select individual items from a database, but move them all to the front so that they are grouped together, which is helpful when inspecting them, or for selective printing of information.



The memory management has been improved so that it will hold more data than before. One feature from the original has been removed — you can no longer copy a record or form by dragging it, which proved to be both a memory — intensive and confusing operation. Now, you simply chose Copy from the EDIT menu.

Any database will let you sort and re-sort the information it contains. But often finding that information can be a complex process. You may have to flick through lots of records looking for it, or enter complex formulae to flush it out of the system. MFF+ makes it easy, in the same way that is often quicker to look up names and addresses in an address book than it is in a conventional computer database. A third window on-screen shows details of the current arrangement of the database, which can be changed by clicking the mouse-button and dragging boxes. By selecting a display that shows the minimum amount of information — say, just the names and address file — you can scroll through the data very quickly on screen. Once you find the name you want, you click on it and, address, telephone number and other relevant information appears in its own window.

To extract specific data from a range of records you can search for information on multiple fields by filling in a form — using such limiters as equal to, less than, more than, and, or, and not. You can not, however, save a search form for use on another occasion.

*continued on page 24*



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continued from page 22

## MICROFICHE FILER PLUS

A MFF+ database can be manipulated just by clicking and dragging with the mouse. For most other operations, when setting up a database or entering new data, you have a choice of using pull down menus or their keyboard equivalents. Creating a database is simple and has been automated as much as possible. A utility is supplied to import or export files in standard ASCII format to and from other programs or other MFF+ databases.

***"Up to nine macros can be programmed and stored with each database"***

One of the limitations of the original Microfiche Filer was that it lacked any macro facility — you were not able to set up a complex sequence of commands that could be repeated at the press of a key. That has now been changed — but at a price. The cost is £39 to buy ARexx (reviewed in *Amiga User International* October 1988), the mainframe language that is rapidly becoming accepted by serious Amiga users as the way to transfer data between programs.

MFF+ has a ARexx interface and provides examples of ARexx macros to perform such tasks as exporting or importing data. A macro for use with its address book program, for instance, will automatically dial numbers for you (if you have a modem attached, that is). Up to nine macros can be programmed and stored with each database.

Its graphics handling has also been improved although it is still slow in reading picture files from disk. Graphics, which can include icons (.info files), are stored in two or four colours to save money, although you can display your picture in all its multi-coloured glory in separate window.

MFF+ has fewer limitations than some other databases when it comes to the size of a field (a specific item of data such as a first name) and a record (a group of related fields, such as names, address and phone number). A field can be 32,000 characters (more than 5000 words) long. Fields are of four types: text, number, picture and calculated. A record can be of any length and there is no limit on the number of records in a file, or database. In practice, of course, the size of your database will be limited by the amount of available memory.

The only disappointment with the program lies in its printing of reports. You have infinite choice over what information is printed, and where on a page it appears. But, however hard you try, you can not design a good-looking page. The end results are invariably dull because there is no way of using a printer's different typefaces or styles, or of adding any decorative touches, such as lines or borders.

MFF+ won't even let you underline words. Neither can you use colour, except when printing graphics, nor Amiga fonts in different styles. The program uses a printer's graphics mode only when printing pictures — which gives an appalling appearance to any accompanying text, since it comes out as enlarged Topaz. Worse still, instead of a single character space, it leaves an inexcusably vast gap between a person's first and last names in labels and invoices and the like. And when you print records containing different numbers of fields, those with fewer fields are printed with blank lines.

To get an attractive result, you will either have to print the report to file and then import the text into a DTP program, or use pre-printed pages. But matching MFF+'s print-out to a pre-printed design is a hit and miss affair, since the program provides no on-screen guide — no co-ordinates, no measurements — to show how your display will look as hard copy. MFF+ does allow you, if your printer has a condensed typeface, to print around 150 characters across, and about 66 lines down, a page. And there are options for printing multiple copies and using single-sheets. Most of the printer options, though, have to be set from the Workbench's Preferences.

### Conclusion

MFF+ is one of the few databases that is fun to use. Its main limitation is that of any memory-based program — it can only hold as much information as can be squeezed into available RAM.

It is easy to operate and, with the extra cost of ARexx, programmable so that you can make it do exactly what you want. It is fast and extremely flexible, particularly in its screen displays. You can manipulate data in any way you want. Its hard copy, though, is a disappointment and falls well below the standards of the rest of the program. Nevertheless MFF+ makes individual and effective use of the Amiga and, as a simple, general-purpose database, is as good as you will find anywhere.

J.W.

**Price: £69**

**Contact: Amiga Centre Scotland, 4 Hart Street Lane, Edinburgh EH1 3RN. (031) 557 4242.**

*Microfiche Filer Plus copies the style of a microfiche. The entire database — a catalogue of Fred Fish's Public Domain disks — is shown in miniature in the top right hand corner of the screen. A magnified section of it fills the rest of the screen.*

*What is shown in the magnified section depends on the Form List. Drag a new command into the Display Form box and the display changes from showing Name Only to displaying Function, Name and Author. You can re-arrange the data to form as many different displays, sort and print forms as you want.*

*Clicking on any item displayed on the screen opens a window showing all the information concerning it contained in the database.*

*Clicking on any item displayed on the screen opens a window showing all the information concerning it contained in the database.*

*Forms for printing and screen display purposes can be defined to show the same informative in many varied ways, as in MFF+'s sample invoice and order entry database.*

*IFF graphics are stored in two or four colours in the database to save memory, but they can be viewed in their original colours.*

*Text and graphics can be mixed together, as here, in a story board for a television commercial included on the program disk.*

*Among the new features of Microfiche Filer Plus is the ability to use macros. A drawback is that it requires users to buy the ARexx language in order to write and program the macros.*



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There were as usual lots of keen Commodore owners who were prepared to fight the traffic in the West of London to find out the latest on the CBM scene.

Stars of the show were of course Commodore UK, who had taken a large but somewhat dull area of the main exhibition hall. (Is it time they changed from the back?). Somewhat surprisingly perhaps the main attraction turned out to be their new BBC Microcomputer emulator priced at under £50. Although the system, written by London-based Ariadne Software (01-960 0203) is as yet unfinished, it caused quite a stir.

A Commodore UK spokesman explained why. "The BBC is already the

complex graphic operations run up to seven times faster than the BBC Master. In fact it will run any BBC specific software that will run under Acorn's 6502 second processor."

Of course, Commodore themselves were not the only company to be demonstrating their new releases — although some were at best tricky to discover through the seething crowds. One of the first to catch my eye was a brand new release — just in from the Comdex/Fall exhibition in Las Vegas — Caligari a 3D CAD draughting package. Brought to the show jointly by Cloudhall (0604 231211) and The Software Factory

Seamus Brodie of the Software Factory, explained. "Caligari literally

has been greatly enhanced and transposed on to the PC and Atari's. Now the long-awaited conversion to the Amiga has finally arrived priced at just under £100. Arnor's Mark Tilley, told *Amiga User International* "Protext has long been recognised as one of the best word processors around — porting it out to the Amiga was the logical thing to do.

New hardware was thin on the ground as usual — although among the innovations on display was a low-cost Genlock system, albeit offering a basic specification, prices varied around £100 from various distributors. Staying with Genlock — Triangle Television made a big impression with their new broadcast quality system

# COMMODORE

most widely used computer in Britain's schools. Teachers especially find the machine very easy to work with and children find it easy to use. Although the Amiga offers far more power than the 8 bit machine — at a more reasonable cost than the Archimedes, we felt that something was needed to fill the gap — hence the BBC emulator.

"The original idea was to write a 6502 emulation and run a genuine BBC Basic and operating system under it, however for technical reasons the 68000 cannot simulate the environment well enough. Because of this Ariadne have completely rewritten BBC Basic in 68000 — the result is extremely impressive, even

offers the sort of features normally only found on systems costing in excess of £50,000 for the hardware alone. We expect it will find its use mainly with architects and other professional designers who need a fast and flexible system, yet which is at an affordable price." The price for software alone is expected to be around £2000, Caligari requires at least 1Mb to run but is happier with at least 2Mb — we will feature a full review shortly.

Staying with the serious side of software, another new product was to be found lurking on the Arnor stand, in the form of Protext, the professional word processor. Arnor first released Protext, some years ago on the Amstrad 8 bit machines since then it

***"From the outstanding to the gimmicky — a label all new hardware seems to get stuck with until someone finds a use for it."***

that provides almost every feature the professional user is ever likely to need.

From the outstanding to the gimmicky — a label all new hardware seems to get stuck with until someone finds a use for it. Two products slotting in to this category were the Soundblaster from Siren Software which is a stereo amplifier for the Amiga, useful







if you suffer from monophonic television blues.

Being the Christmas show of course, there was emphasis on the lighter side of computing, even to the point of a Christmas card competition. Here, users could get their hands on an Amiga — with one entrant spending over four hours on a HAM design.

As always, many new releases made their debuts at the show — with a few like the long awaited Dungeon Master from FTL/Mirrorsoft being conspicuous by their absence. Another promised event that did not occur was the launch of Lombard/RAC Rally. Mandarin Software's rally simulation should have arrived with a real 300bhp Ford Sierra Cosworth —

***"There was a feeling among some in attendance that there were too many games on show and a lack of new serious software."***

to send birthday greetings to the Independent Commodore Products User Group — ICPUG — who celebrated their 10th anniversary at the show, and still found time to organise and deliver seminars on a variety of subjects.

There was a feeling among some in attendance that there were too many games on show and a lack of new

machine than simply 'cut-price' products. A number of Amiga owners expressed the viewpoint that they found it depressing to see the leading-edge computer limited to a 'market stall' environment.

One final salute to the immature representative of the hackers association (the people responsible for the Amiga viruses) who wandered around sticking fluffy bugs to anything that moved — they made great firefighters. When **AUI** attempted to interview said hacker he was strangely unavailable for comment. **.M.S.**

# SHOW 2ND EDITION

perhaps they all got stuck in the snow?

Among those which did make it however, were the strange French space fantasy/adventure Captain Blood, and the definitive game of the film of "Who Framed Roger Rabbit", reviewed in this issue. Anco most notable for their low-cost, high-quality products released a new Strip Poker II data disk featuring Maria Whittaker dressed as Santa Claus — prepared, I understand in less than three weeks — dedicated people those at Anco.

No show report would be complete without some mention of the user groups. Bands of dedicated people who voluntarily give their free time to promote awareness of computers. In particular, everyone at **AUI** would like

serious software. Also, many people found the Novotel much too small for the size and variety of the exhibition with the split level causing severe problems of congestion — especially for parents with pushchairs. Finally, some people felt the £5 entrance fee too high — Database Exhibitions please note.

Because most of the exhibitors were selling already released, in some cases, quite old software, very little excitement was generated as a 'Show'. Indeed a number of interested parties, expressed considerable disappointment at the low-level 'market' aspect. There were also whisperings of a totally separate Amiga Show to give the chance of a wider view of the





# DRAGON'S LAIR

Readysoft

**C**ONVERTING the stunning laser-disk based coin-op *Dragon's Lair* to the Amiga may sound like an impossible task, but one look at Readysoft's effort will be enough to dispel any such ideas.

The original arcade machine used interactive video sequences instead of the more usual computer graphics for its display. It put you in control of Dirk, a darling young knight in a quest to rescue a princess from a spooky castle. Everything was seen just as if you were watching a cartoon, backed by a dramatic soundtrack. The problem was that the game was really a kind of multiple choice adventure, your joystick movements not relating to Dirk's movements as you would expect, but choosing different courses of action. This resulted in a game that was amazing to watch but far too difficult to be playable.

In its Amiga form the graphics are unbelievably close to the original. Dirk is animated with all the style of the coin-op over equally stunning back-



grounds. How it plays is a mystery at present, for we have only a non-playable version so far, so let's hope Readysoft have had the sense to improve it in that respect.

Here's the bad news: It needs a megabyte to run and will be priced at £44.95! Keep it here for the final verdict.

# THUNDER BLADE

US Gold



**A**S I write, the Amiga version of Sega's chopper combat game is just a few days from completion. Tierlex, the programmers responsible for *Street Fighter* seem to have upped their standards and have included almost every feature of the main-co.

Three distinct stages break up each of the four levels. The first takes a bird's eye view with realistic perspectives that put across a good impression of height, especially during the initial city scene. Next the view changes to a more familiar Afterburner/Outrun style as you weave in and out of the skyscrapers, caverns and forests. Then it is on to a 2D assault over massive vertically scrolling motherhips.

The coin-op did not quite have the impact of Afterburner, but on the other hand there is a lot more variety in Thunderblade. So far the Amiga version is looking very similar to the original, and on the whole is very smooth. I have reservations concerning the speed but other than that it all looks very promising.

T.H.



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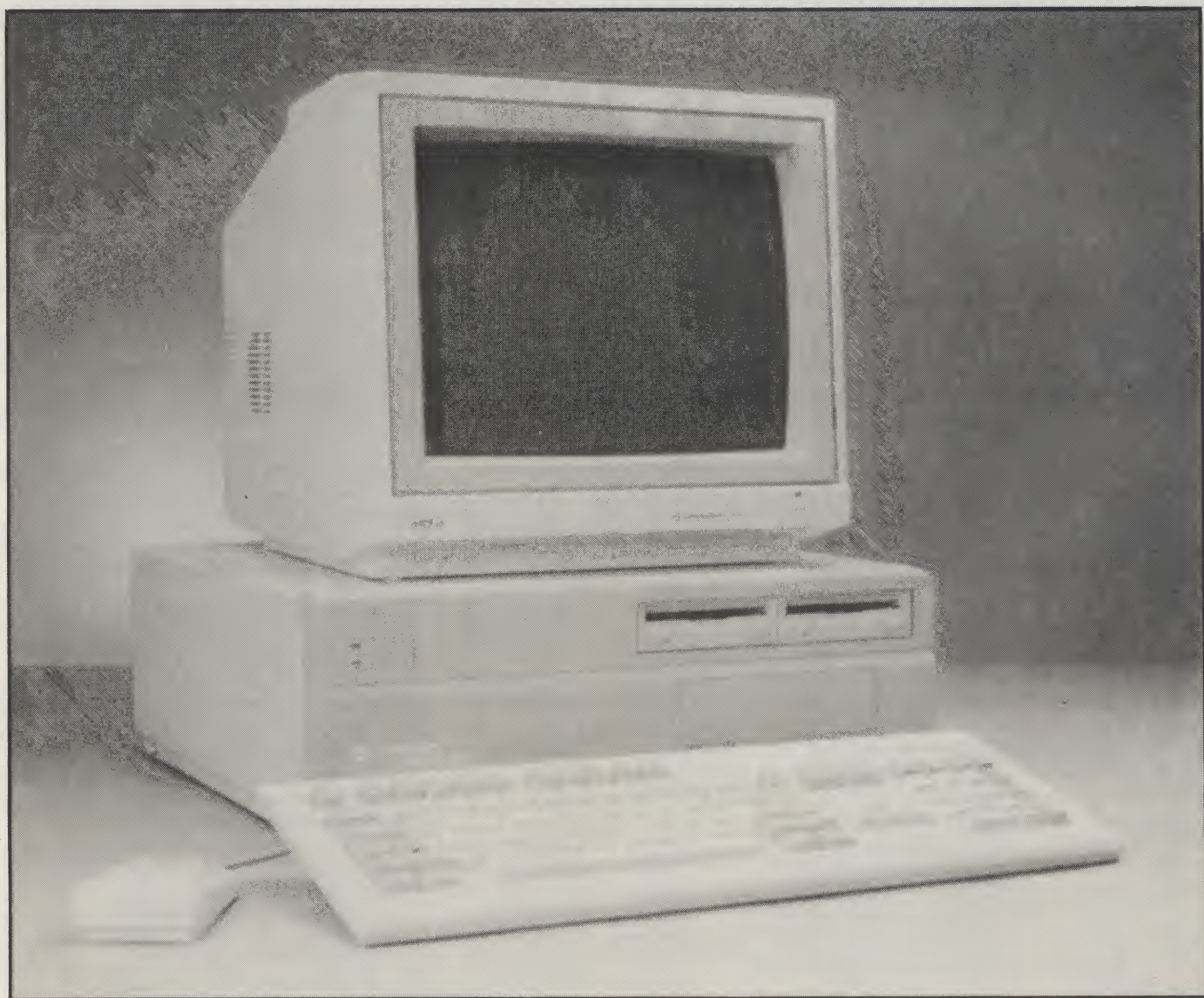
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# THE AMIGA GOES UNIX

*Stories of a Unix-based Amiga have been around since last March when CBM talked of it at the Hannover Computer Show. Max*

*Jacobson - Gonzalez, AUI's special North American correspondent, went to Comdex in Las Vegas, claimed as the largest computer show*

*in the world and found that Unix on the Amiga was a reality at last.*

**T**he intrinsic multi-tasking, multi-processing capability of Amiga computers is being enhanced with an operating environment based on UNIX System



# THE AMIGA GOES UNIX

V<sup>TM</sup>, called AMIX<sup>TM</sup>, which will be run on the Amiga 2500 UX, a workstation outgrowth of the A2000. That for anyone interested in the Commodore scene was the big news at Comdex.

The UNIX operating system, developed by AT&T Laboratories, was originally developed for large scale computing environments that incorporate fast mass storage devices and high computer performance. UNIX is targeted to achieve portability of software across a variety of hardware platforms. It is now finding increasing acceptance around the world and looks likely to become the standard for business and other professional uses.

The performance constraints of some microcomputers resulted in the implementation of sub-sets of the standard, therefore falling short of the objective of 'universality' of computers. The Amiga 2500 UX however, provides a hardware platform without these constraints. This Amiga workstation is an outgrowth of the A2000, only it incorporates fast mass storage, memory management, high speed processing and integral tape backup.

The design of the Amiga UX takes the specific form of the A2000 equipped with an 80 MB, 19ms hard drive, providing the necessary speeds, and ample area for storage. An internal 150 MB tape streaming drive is included for archiving and routine backup procedures.

Processing is handled by a 68020 working at 14.3 MHz, a 68851 virtual page Memory Management Unit (MMU), a 68881 math co-processor and 5mb RAM (4 MB of 32-bit wide RAM; 1 MB of chip memory). This configuration increases the processor performance of a stand-alone 68000 by up to 400 percent, and provides the base for a powerful multi-user system. Upgrades to 25MHz are possible.

Amiga UNIX (AMIX<sup>TM</sup>) repre-

sents the latest implementation of UNIX, System V, Release 3.1, which includes text processing and software development tools. Its tools, packaged with the Documentor's Workbench, includes device independent troff, eqn, tbl and a "C<sup>TM</sup>" compiler developed by Motorola specifically for software coded for the 68020 and 68881.

## AmigaDOS too

Significantly, the A2500 UX is not only a UNIX workstation. It is also fully an Amiga. AmigaDOS resides on the hard-drive, as well as AMIX. The hard-drive can be partitioned into separate sections for the AmigaDOS and AMIX. The user has the option of selecting in which environment to work.

The 68020 is accessible to applications running in both the AMIX and the AmigaDOS environments.

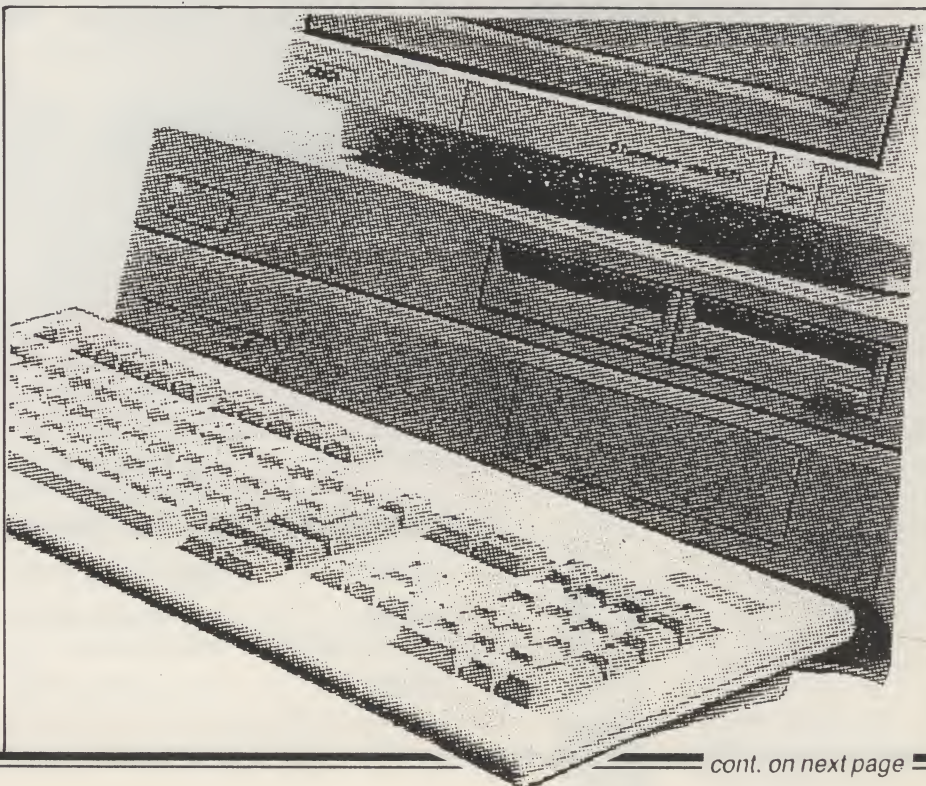
A proprietary windowing system is incorporated within the AMIX environment, and is specifically designed for speed and convenience. This system is much more performance oriented than current rudimentary windowing

environments available on micro-computer-based UNIX systems.

The AMIX version was developed by Commodore engineers to take full advantage of the unique features of the AMIGA such as the blitter and custom graphics hardware. The main processor is thereby freed for use primarily for program execution. This interface also allows multiple processes to occur within multiple windows — all simultaneously.

By implementing a full version of UNIX on the Amiga, Commodore will provide the scientific, engineering and academic and, of course, the business communities with a powerful new capability. The opportunity to implement this technology on a well established microcomputer platform at a relatively low cost should, Commodore believes, meet with a very wide acceptance.

Beta versions of the AMIX system are currently being made available to developers. Release dates for the final versions should be around late Spring 1989. The price is estimated at under \$5000 (about £2800).



cont. on next page



continued from page 30

**We have obtained the previously closely-guarded specifications of the latest Amiga development — the A2500. We thought they would make interesting reading for any Amiga user.**

# The 2500

## PRELIMINARY SPECIFICATIONS

<b>CPU</b>	Motorola 32 bit processor · Clock 14.3 MHz · 1 MB 16 bit RAM and 2 MB 32 bit RAM Standard · Internally expandable up to an additional 6 MB (with AUTOCONFIG™ feature) · Total maximum 9 MB
<b>MEMORY</b>	
<b>ROM</b>	256 KB (includes Kickstart 1.3)
<b>INTERFACES</b>	Keyboard · Mouse/Joystick/lightpen ports (2) · Serial (RS232) · Parallel (Centronics) · Video (RGB analog or RGBI) · Right & left audio · External disk drives · Monochrome video
<b>SYSTEM SLOTS</b>	Installed in CPU (86 pin) slot: MC68020 running at 14.3MHz containing CPU, 68881 Math CoProcessor and 68851 Memory Management Unit plus 2 Mbytes of 32 bit RAM (expandable to 4Mbytes 32 bit RAM on board) · Amiga System bus: 5 slots (100 pin) with AUTOCONFIG™ feature · PC bus: 4 slots
<p><b>How the Slots Work</b>            If a PC-compatibility card goes into slot 4, then slot 5 is for PC cards, making the total card expansion capability: 3 Amiga cards, and 3 PC cards. If the compatibility card goes into slot 5, then slot 4 is for Amiga cards, making the total expansion capability: 4 Amiga cards, and 2 PC cards.</p>	
<b>VIDEO SLOT</b>	1 Video slot for internal NTSC/PAL encoder for composite video, internal Genlock, etc.
<b>KEYBOARD</b>	Detachable · 94-keys including: 10 function keys · Separate numeric keypad · Separate cursor keys (reverse "T" layout) · Help key
<b>MOUSE</b>	Optomechanical · Two-button system
<b>DISK DRIVES</b>	Built-in 3.5" Disk Drive (880KB formatted) · 40 MB, 28 millisecond Hard Drive · Preformatted and pre-loaded with system software and utilities (includes Autobooting Hard Disk Controller) · AmigaDOS™ supports 4 floppy drives in any configuration simultaneously Internal Options: 5.25" Half Height Drive External Options: 2 Amiga Floppy Drives (A1010) (Third external drive is supported with A2088 Bridgeboard installed)
<b>VIDEO DISPLAY</b>	400 Lines/vertical frequency 60Hz · International version: 512 lines/vertical frequency 50Hz · Graphic co-processor with beam synced draw, fill and move modes · Maximum 512 KB video memory (chip memory) palette of 4096 colors, maximum 6 bit-planes, 8 sprites per scanline
<b>TEXT MODES</b>	Standard Modes: 80 characters/25 lines, 60 characters/25 lines · Different font sizes and font types selectable · screen colors user definable
<b>GRAPHIC MODES</b>	Numerous modes ranging from 320 x 200 to 640 x 40 (can be more using overscan)
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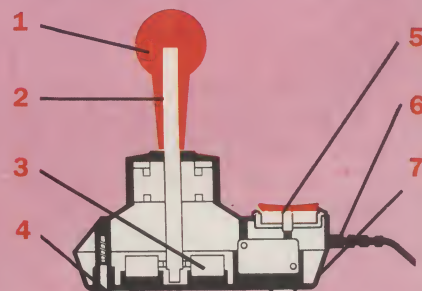
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# PROSCRIPT

*John Walker tried out New Horizons' latest addition to the ProWrite armoury. This article has been reproduced using the 'typesetting' he created with it.*

Word processors for the Amiga fall into two general categories. There are the general purpose ones, dominated by Scribble! at one end of the market and by WordPerfect at the other, which ignore the computer's graphics capabilities.

And then there are those which allow you to mix text that uses the Amiga's fonts with graphics, and print both in colour. Of the graphics orientated word processors, my favourite is New Horizons' ProWrite 2.0.

It handles graphics well, apart from a limitation of eight colours. And it's the only one of its kind that doesn't slow down drastically. However fast the typist, ProWrite updates the screen display as quickly, which is more than can be said of the others.

ProWrite now consolidates its position as one of the most versatile of word processors with the release of ProScript, an excellent utility that allows you to print ProWrite files on any laser printer or typesetter equipped with PostScript.

Indeed, with the conversion program included on the disk, you can use ProScript to print files from three other word processors: Scribble!, Textcraft and Textpro. New Horizons has plans to issue further conversion programs for other word processors.

A PostScript utility is a bold step, but a very welcome one, for a relatively low-priced word processor. Not many people can afford a PostScript printer. But PostScript bureaux are beginning to appear in the High Street, charging from around 50p to £1 a page for printing your files. For high quality results, almost indistinguishable from typesetting, you can't beat a PostScript printer.

ProScript gives ProWrite some of the capabilities of desktop publishing. While you can't use columns, you can print graphics as half-tones, using up to 16 shades of grey, and add headings in a variety of type sizes. It turns ProWrite into an efficient document processor, ideal for the production of good-looking reports.

ProScript comes on a single unprotected disk, together with a small 60-page manual that explains its workings well. Not that it needs much explanation, for it is no more difficult to use than ProWrite's normal printing facility.

The only difference is that you can't print a document that is in memory. You have to save it to disk or RAM first. ProScript will run on any 512K Amiga with a 1.2 or later Workbench. You can use it from the Workbench or from the CLI (Command Line Interface). If you've enough memory you can run it at the same time as ProWrite, so that you can print one document while working on another.

The only task that may cause any problems is installing the new PostScript fonts on the ProWrite system disk. To do this you'll need not only to remove such programs as the Clock, Notepad and Calculator but also delete some of the printer drivers. This is not difficult, but it does involve using the Amiga's CLI.

Installation of the actual fonts is foolproof, since the ProScript disk contains a program to do it automatically. All you need to do is click on an icon. Four PostScript fonts are supplied: Times Roman, Helvetica, Courier and Symbol. All come in 9, 10, 12, 14, 18, and 24 point sizes, which is enough to provide variety. You can, of course, continue to use the Amiga's usual fonts - although, like all bitmapped fonts, they will provide a poorer quality of print.

You may have files using Amiga fonts that you'd like to print on a PostScript laser, but don't want the bother of going through the document, changing the type to the appropriate PostScript font. ProScript will come to your rescue here. It will, if you want, automatically substitute PostScript fonts for Amiga ones.

It's set up to replace Diamond, Granite and Opal with Helvetica, Marble and Ruby with Times, and the remainder with Courier. But you can alter the font substitutions to suit yourself.

ProScript is a fairly versatile PostScript printer driver. Documents can be sent to a printer or to a disk file for printing at a later date. One unusual, and very useful feature, is that it has a mail merge facility so that you can do such things as produce customised letters from a form letter and a database of names and addresses.

The program allows you to print only odd or even pages, to scale pages to any size and rotate them to any angle as you print. There's an additional option to print on both sides of the paper, which does the odd numbered pages first, prompts you to replace the pages in the printer and then prints the even numbered pages. You can also print a range of pages from the document.

You can reproduce coloured text in shades of grey or have it all printed in black if you prefer. Graphics are reproduced as half-tones, using 2, 4, 16 or 256 shades of grey. At the moment, 16 shades is the maximum you can use - the 256 is there for future enhancements to ProWrite.

You can set up and save your preferences as to how the program operates - whether it uses a serial or a parallel interface, prints coloured text in grey or black and white, and so on. You can also specify the default page-size.

In use, ProScript pops up a window on the screen.

continued on page 37



Don Bluth's

# DRAGON'S LAIR®



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continued from page 34

## PROSCRIPT

You have to load a document before doing anything else. After that, it's a matter of entering the number of copies you want and clicking on a Start button.

ProWrite lacks some of the fancier typographical features found in desktop publishing programs, such as hyphenation and kerning. In line breaks, page lengths and placement of graphics, the printed result resembles what you see on the screen, so it is possible to fine-tune a document to provide an attractive appearance.

Of course, there are improvements I'd like to see. Although there's a reasonable selection of typesizes, it would be better if there was a greater range. I'd like to see sizes larger than 24 point. Better, though, would be a program such as MakeFont, which is to be found on Gold Disk's LaserScript PostScript driver for PageSetter. That allows the user to create fonts of any size.

A greater number of fonts would be an improvement, too. The first PostScript printers tended to have just Times, Helvetica, Courier and Symbol built in, but the latest generation usually provide 11 different fonts. It's a pity

ProScript cannot fully use the capabilities of such printers. At the moment, you can do it only if you've Gold Disk's Professional Page, since its PostScript fonts can be used with ProWrite and ProScript.

An easier solution would be for New Horizons to issue more PostScript fonts. You can get by with Times and Helvetica for most purposes, but two very useful additions would be Zapf Chancery, which provides a script-like typeface, and Zapf Dingbats, which gives you lots of useful symbols, such as pointing hands, arrows and stars.

Such improvements may be in the future. It's clear from the option of 256 grey scales that ProWrite itself is still evolving. I hope to see a future version that combined the two programs so that documents could be printed from memory.

For the moment, though, ProScript is well worth buying by any ProWrite user who has access to a PostScript laser printer. The conversion program makes it a good buy, too, for Scribble!, Textcraft and TextPro users. It's a great utility - one that puts ProWrite in the forefront of Amiga word processors.

ProScript provides four PostScript fonts in sizes of 9, 10, 12, 14, 18 and 24 point. The four fonts comprise a serif typeface, a sans serif typeface, a typewriter-styled typeface and a typeface to provide symbols and mathematical expressions. This is 12 point Times Roman, which is the serif face.

**This is 24 point Times Roman.**

The sans serif typeface is Helvetica. This is in 12 point.

**This is 24 point Helvetica.**

**You can use different styles, such as bold, or italic, or underline.**

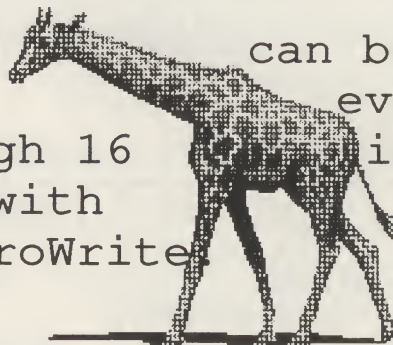
Courier is the typewriter face. This is 12 point.

**This is 24 point Courier.**

And Symbol looks like this: Σψμβολ ΦΠβΞΔ ΓηΘΩχΞΥ

You can still use the Amiga's bitmapped fonts, such as this in Diamond, but the results will not be as good as using the PostScript fonts.

Graphics can be reproduced in 2, 4, 16 or even 256 shades of grey, although 16 is the most that can be used with the current version of ProWrite.





# CHEAP IMITATION

**Mark Smiddy checks out a new budget-priced disk drive for the Amiga**

**W**HEN it comes to doing anything other than playing most arcade games on an Amiga the first thing everyone discovers is the machine's a real dog to use with just one drive. I'm not suggesting the Amiga's the only computer to suffer with this type of problem — Apple's Macintosh is just as bad, if not worse — but the problem remains all the same.

In fact the trouble stems from the way AmigaDOS operates, every time a command is executed either from workbench or from CLI, DOS looks on the currently assigned volume (disk) for the command directory (C). If the volume is not currently mounted (inserted) in a drive, then DOS howls at you to put it back. The same thing applies to fonts and so on, in fact anything that your boot sequence has assigned to that boot disk — usually workbench.

The solution is fortunately very simple — add another drive. Now the Amiga will automatically mount any volume inserted in the external drive but still take its commands from the volume assigned at boot time, simple. Now here's the catch, external drives are not usually cheap, especially if you happen to like the chunky styling of Commodore's own 1010 unit.

There are two solutions, either buy an Atari ST drive second hand and slap the appropriate lead on (perish the thought) or buy a cheap alternative like the AF880. Tacking a lead onto a third party drive is far from ideal and needs quite good knowledge of the Amiga's inner workings (see panel).

The AF880 has two things in its favour. Firstly it's competitively priced — cheap — and secondly it resembles Commodore's own, minus the definitive tick symbol that has now become synonymous with all things Amiga. Similarly the colour matching could have been better, with the drive's casing been slightly whiter than that

of the Amiga. Nonetheless, the competition cannot manage any better — most other third party drives are ST grey — ahum!

Installing the AF880 is a breeze, thanks to the excellent design of the Amiga, not just the blissfully simple manual. A simple matter of plug in and go. However, I should point out the manufacturers recommend no more than two of these drives are connected to one computer. Exactly why is unclear, but I have my suspicions. The only major problem with the installation is the length of the lead. I know we are all dogged by piles of wire underfoot. Still, under half a metre is cutting it a bit too fine for my liking.

In use the unit looks, feels and sounds very much like the 1010, which is more bad news. The 1010 is overly large and has a tacky plastic case which acts like a sound box. This sound box effect comes into its own when you are in a quietish room and the Amiga is searching for a disk — the constant clunking sounded like someone biting their nails. Solution — give it a disk to chew on. I am sad to report, the AF880 suffers exactly the same flaws, albeit with slightly lower grade of plastic.

For all its bad points and cheap feel, the AF880 performs very well. It is a disk drive and at the price still quite a good buy. Personally though, I still prefer the half and third height units with metal cases, but if you happen to be looking for a drive that looks like it belongs with the Amiga this one is the one to go for.

**M.S.**

**Price: £84.95**  
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## *Life, the universe and the Shugart interface*

WHEN Sony invented the 3.5" drive mechanism they found themselves with an interesting problem — devise a new connector for the drive and make it completely incompatible with existing interfaces or use a standard one. For once, those awfully nice Sony people got it right and opted for the industry standard Shugart interface — enabling this superb design to get the use it deserved. And the rest of us to get a low cost reliable disc, you can run a car over and still be able to read.

During the development of the Amiga, the 3.5" drive was just coming to the forefront. So let's face it, if you're designing a state-of-the-art computer you'd be shooting yourself in the foot by building in out-of-date, although still widely used peripherals — like 5.25" drives for example. Not surprisingly, both systems utilise the very same Shugart interface.

But the Amiga's designers weren't going to just stop there. They wanted the "dumb" 3.5" units to act like the early intelligent systems used by Commodore and Atari. In short, the Shugart interface is patched with a simple — yet clever — little bit of electronics to firstly enable the drive to tell the system it's actually connected. And secondly, only to switch on the drive motor when the drive in question is been accessed. Otherwise, if the four drive motors were turned on at once, the power surge could do damage to the computer. All this electronic trickery adds to the complexity and the cost.

## **Vital Statistics**

**Product: AF880 — external disk drive**  
**Stepping speed: 3ms**  
**Rotational speed: 300rpm**  
**Transfer speed: 250 Kbaud**  
**Head settling time (Avg): 94ms**  
**Height: 28.5mm**  
**Width: 104mm**  
**Depth: 202mm**  
**Weight: 1Kg**  
**Connector: Amiga 500/1000/2000 compatible**  
**Trailing lead: 400mm**



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# LITERARY AMIGA

***'Style' — you either have it or you haven't. Now your Amiga can tell you the truth thanks to an innovative piece of Italian Shareware tested by Peter Lee.***

It is hard to get good information on Shareware programs — they are hardly the stuff of mega advertising campaigns or gaudy computer store posters. And apart from User Group magazines, and of course **AUI**, they tend to be overlooked by computer magazines in favour of the mainstream software. But most Amiga users at one time or another will need one of the hundreds of utilities which are currently in circulation among enthusiasts.

So what is Shareware? Simple really — it is a program which is freely available to everyone, but which must be paid for if you intend using it. This puts a great onus on the integrity of the user — it is up to you and your conscience whether or not you send off the cash to the author.

But human nature being what it is, programmers are hardly like to get rich quickly this way. Their best hope is that they will make sufficient improvements to subsequent versions to make it worthwhile for users to pay the fee, and register.

In the case of Literary Amiga (Letteratura) this money would be well-spent. The Shareware product comes on two disks, and will cost you around \$40 if you intend using the program and wish to reward the Italian authors, Raffaele Cocchi and Vanio Preti.

It has a specialist application — and in its depth and ingenuity, a unique one: it consists of a set of programs which can help students of literature to analyse literature texts. That doesn't sound too earth shattering does it? But the program is an example of the kind of application which is extremely interesting to use without being terribly useful for ordinary users such as you and me.

It is obvious that a great amount of time and thought has gone into the program's design. It was written entirely in Basic and compiled with AC/Basic, so it runs quickly and efficiently, with wonderful control windows.

The program requires an Amiga with a minimum 1 megabyte of memory, and can be reset to suit your disk drive configuration and PAL/NTSC options. Its diet is ASCII text, and you will have to type in the work you need analysed (or scan it if you have the equipment).

The text is loaded in and tagged using a code system (for instance to define location or stage directions in dramatic works). Once re-saved it can be re-loaded into the second module, the Processor, which will elaborate the text to create the information files for use in the third module, Analyser. As it does so it prints the time taken to do the work, and as a guide, a 1,000 word piece I wrote took just

over 7 minutes to scan through.

Information about your text is displayed by the analyser in the form of general statistics, lists, indexes and concordances of the words. Words can be sorted in terms of alphabet or frequency and key words in context, together with phonemes. Data can be dumped to the printer or perhaps to a disk file, for later inclusion in a word processor.

What you do with the analysis is up to you — it won't help you appreciate the works of Byron, Milton or Shakespeare, but it could help you form a better understanding of their style. It could also prove useful in comparing an anonymous text with a known author to see if the format is similar — writing style is not quite as specific as a fingerprint, but it can form the basis for some educated guesswork.

Finally, the whole package has been compiled with excellent good humour and friendliness — there are digitised pictures of the authors available, and the introduction text has a wry self-mocking air which makes you like the guys right from the start (for instance they say (*"In order to develop L.A. to the best of our ability we used our whole wit and imagination in stealing all we could from what we read about other similar material . . . presenting the output of our fatigued brain as something completely original and genial"*)).

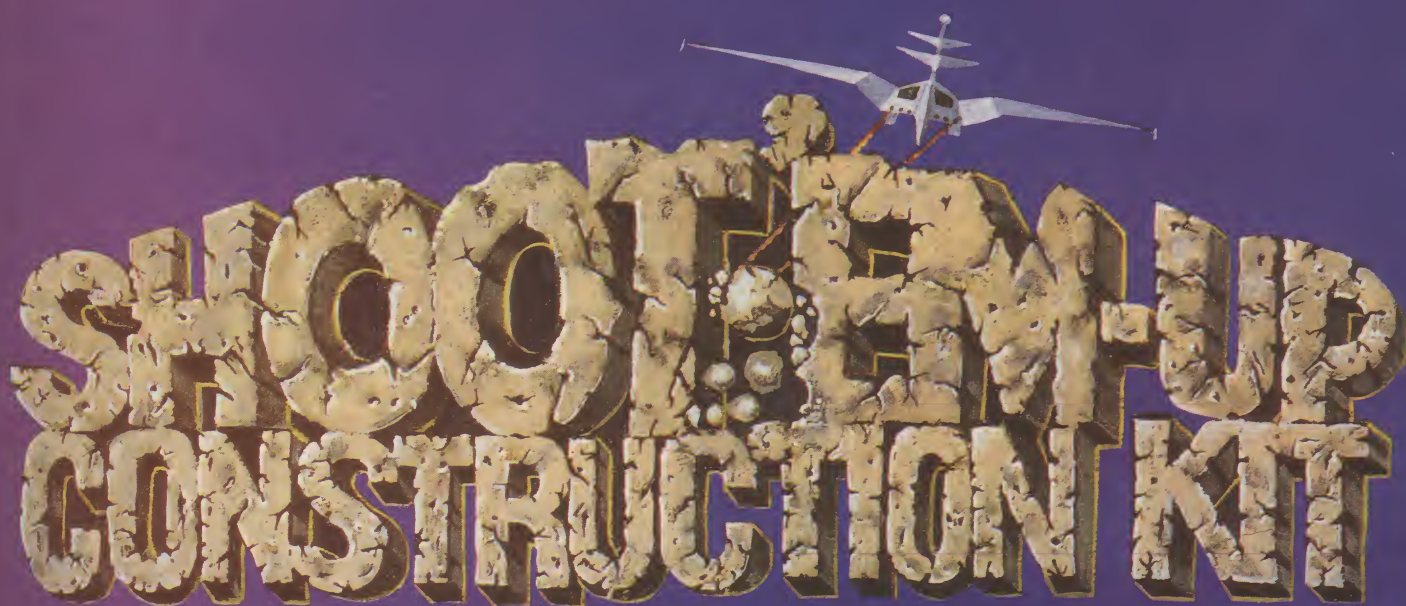
## CONCLUSION

This program will never make it to any top 10 sellers list, but just because it is shareware, don't undervalue it. It is a clever and well-constructed style analyser which will appeal to literature academics and students. The hardest part about using it is actually getting the text into the computer to analyse. The disk contains some good example stanzas in an anthology to get you started, and it opens up a new and innovative field for experiments. How useful you will find it depends on the depth of your studies, but it is a charming and interesting program which deserves at least a look.

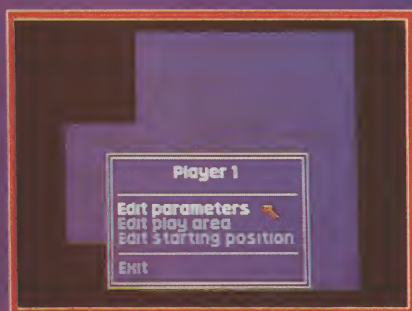
P.L.



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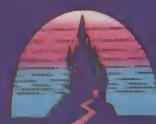
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PALACE SOFTWARE



**C**AR race games have always been a favourite of mine, so after seeing it previewed at the PC Show I was looking forward to playing Loriciels' Turbo Cup. I was not disappointed—and I don't think you will be either.

Turbo Cup takes the basic concept of Pole Position and develops it into a far more involved but equally playable format. There are four tracks to choose from and five gear selection modes. Automatic gears are the default, but the more adventurous might opt to use a second joystick as the gearstick or the "professional" mode in which

# Loriciels TURBO

After a few seconds you are placed on the grid. This is where the game comes together. As the lights turn green, the field of 22 944 Turbos roar into action and immediately begin to weave in and out, racing to get the best line for the first bend. You have the privilege of a slightly faster car than your opponents but you need to use your extra power very carefully to avoid slamming into the back of the car in front. The computer controlled cars drive expertly, taking the bends at speed but never overdoing it. Even so they are very realistic in the way they constantly switch lanes to cut each other up.

the firebutton acts as the clutch and the joystick is moved as a real gear-lever would be (though this is a bit unreliable). Keys 1-5 can also be used or you could just go for the standard firebutton with up or down to switch gears.

*"The practice lap can be used to familiarise yourself with the track, pick out spots for overtaking and make a note of any particularly nasty bends."*

Sort that lot out and you find yourself situated behind, and quite a way above your 944 Turbo as it sits on the start line. You will notice the absence of any other cars, because before the race begins you drive a solo lap to determine your position on the grid. The practice lap can be used to familiarise yourself with the track, pick out spots for overtaking and make a note of any particularly nasty bends. Cross the finish line and the driver performs a posey handbrake turn and comes to a halt.



They do not take kindly to being passed either, and often do their best to hold you back, safe in the knowledge that they will come off the better in any collisions. A nudge from a rival Porsche will send you into a light skid, but anything more serious could cause some serious damage to the paintwork (to put it mildly). Even if you do manage to take the lead you are constantly challenged by your opponents. A few times I have been half way round the final lap in first place, getting all excited





at the prospect of winning, only to push it just a bit too hard on a bend and come spinning off the track, losing a good few places in the process.

Turbo Cup's 3D is the best of its type yet seen on the Amiga, beating Outrun with its higher, clearer vantage point. Some of the tracks have hills and all have a neat way of widening and narrowing with accompanying lane markings. Your Porsche stands out from the rest with its pale blue shading. As well as being extremely well drawn it has some nice details, such as the animated exhaust and brake lights. The hum coming from its engine tends to drone on a little but the rest of the sound effects are suitably dynamic (the intro music is not at all bad either).

You can either buy the game on its own for £19.95 or in a pack with a toy Porsche, complete with working steering wheel and opening doors (woopee!) for an extra fiver.



What makes Turbo Cup better than any of its rivals is the competitive spirit generated by the races. In most other games of this kind the traffic is just there to be dodged. Here however, each car seems to have a mind of its own and you find yourself swearing out loud at them as they bump you off the road.

*"Each car seems to have a mind of its own and you find yourself swearing out loud at them as they bump you off the road."*

My only reservation concerns the lack of variety. The four tracks range in difficulty with slightly different scenery, but it was inevitable that one would look and play much like another. Still, I was playing this all day yesterday and most of today, and I quite fancy another bash when this review is done. So what are you waiting for? Burn some rubber and get down to your local games dealer this minute before they are all gone!

T.H.



# TURBO CUP



Graphics: 9  
Sound: 7  
Playability: 9  
Value: 9  
Price: £19.95  
£24.95 (with car)



# A LETTER FROM NORWAY

**One of the most interesting letters we have received recently was this one from Norway. The writer is clearly someone of enterprise, who has taken the Amiga and created a new field in which it can be used. More power to Martin's mouse!**

To the Editor,

My name is Martin Joyce Nygaard. Last Christmas evening I was struck by an ideal that kept me awake for quite a while, made me quit my job and lend a whole lot of money from my father.

The ideal was to make a computerbased information system that the public could use by themselves. An "InfoBox", that was easy to use, friendly, fast and highly informative. The whole party would be financed by advertising.

So I had to find a machine that was inexpensive, small, fast, friendly, easy to use and that could reproduce advertisements in a proper way. I bought myself an Amiga for Christmas and was *incomunicado* for a week. The next step was to find someone to make the program. They had to be professional programmers that also knew everything about the Amiga. Through Commodore Norway, a software house and a dealer I found out that only two persons in Norway could do this job. Luckily they both lived in Oslo. They were also good friends — and they liked the idea so much that they became partners.

The boys formed a company called "ViewPort" of Drammen, and started programming in "C" while I started selling the product and our only employee was making all the graphics.

She started to make small icons and scroll-menus to almost all kinds of trades and branches from the telephone directory. Detailed maps over Oslo were digitized carefully and every single shop, hotel, restaurant, cinema, etc, etc, was written in with coordinates that related to the proper spot on the proper map. Then every single bus

station, tube, train or tram stop was registered and the whole thing put together in a special design metal box.

The box is equipped with four arrow-keys and a enter-key. These keys are connected to the Amiga joystick-port. Inside there is an Amiga 500 with 1 Meg RAM, a controllercard, a 40 Meg Hard Disk, double set of A500 power supply and a 1081/84 colour monitor.

The InfoBox welcomes the user with a slideshow like series of pictures and screens telling you to press any button. Then a main menu appears with two or three choices. This would be local info and city info. Say you choose the local info in a shopping centre, a new main menu appears. Here you can choose different kinds of shops, restaurants and facilities. Choosing restaurants give you a scroll-menu with the restaurants. Those who are marked with a different colour have special offers that will appear by pressing the enter-key. This may be a picture of the restaurant, the menu, price list etc. Next press on the enter-key will present a map over the shopping centre and place a flashing dot at the restaurants localities.

The city info works the same way, but in addition you can make the machine figure out what pet-shop is the nearest from your location, then show you a picture of the shop, dogs, cats, birds whatever, place the shop on a large scale city map — showing your position and the pet-shop. Then a small-scale detail map appears, pointing out the exact position with a flashing arrow. The last press on the enter-key gives a complete list over public transport available to this specific pet-shop.

In between there will appear advertisements. When you choose hotels from the main-menu, an hotel-ad will appear for 3 seconds before the scroll-menu with all the hotels appear. This way all advertisements are relevant for the persons needs (you wouldn't choose hotels unless you were interested — or curious).

Well, this system is now up and running in Oslo. There are 3 InfoBoxes out in public service, and there will be many more. Our customers are: The Norwegian State, branch of public information, Centre for public transport and Norway's biggest shopping centre that was newly opened — and where the InfoBox are so popular that they have to buy more.

Infobox is good business. After a sale (we charge £5,000 — for a box), there are a lot special information that has to be made and implemented. This is mainly artwork in Paint and digitizing/scanning that one makes sure is well paid for. Often the customer wants new information every month — that's business. And, of course you keep the better part of the advertisement income, some of it you share with the owner of the InfoBox — so that he also makes money!

The InfoBox doesn't have to be in a box. One can use an Amiga 2000 with a 20 or 40 Meg HD that stands in a shopping window. The program may be controlled by heat or light sensitive sensors glued up on the windows inside.

The program also contains a "multiple-choice-guess contest-facility", that makes it even more attractive to the public — and also suited for interactive training.

There are a lot of ways to make use of this program. For instance banks, post offices, tube stations, airports, exhibition-halls, hotels, tourist information, and so on.

If any reader of this grand magazine could be interested in a deal so that he/she may sell one or more InfoBox and do business on such activity — please let me know. We would be more than glad to hear from you and possibly help you get started.

Please address your inquiry to: InfoBox A/S, Skippergt. 27, 0154 Oslo 1, Norway.



# MAGELLAN

## Emerald Intelligence

**One of the stars of the Chicago AMIExpo was an intriguing program that was a first for the Amiga — an expert system. Paul Andreas Overaa investigates A.I. for Amiga Users.**

**M**agellan is an expert system shell from Emerald Intelligence Inc. Expert systems are a talking point with almost every computing group in the world so the provision of such a shell for the Amiga is of considerable interest.

Before we look at the package, let's briefly explain what an expert system shell is: The name 'expert system' has been around in the AI community for many years... it is a fairly loose term used to describe a computer system which is able to mimic human expertise in chosen areas. Programs like Magellan are 'rule based'... their 'Knowledge base' consists of a collection of facts and rules. By using this knowledge base they attempt to perform in much the same way that a human expert might. An expert system shell is simply the bare bones of the expert system, i.e. the interface and inference coding, provided within an overall environment which makes it easy for users to create their own knowledge bases concerning any subject under the sun.

Magellan can run in 512K so it can be used by all Amiga owners. The package is well presented and consists of two disks (one of which includes example knowledge bases) together with a 130 page manual. The manual is reasonably well laid out although there are areas, particularly concerning information of a more technical nature, where distinctly more coverage is needed. The creation and editing of rules is well explained as are the host of other options available within the Magellan environment, e.g. loading/saving knowledge bases, displaying cell contents, selecting inference options. It may be that content of the manual was deliberately kept free of more technical issues for the benefit of first time users but, if this is the case, there remains a need for additional technical and tutorial manuals to deal with the types of questions that

serious users are likely to ask immediately they start using the package.

**"You create rules about objects, their attributes, the associated values, and the relations which exist between them."**

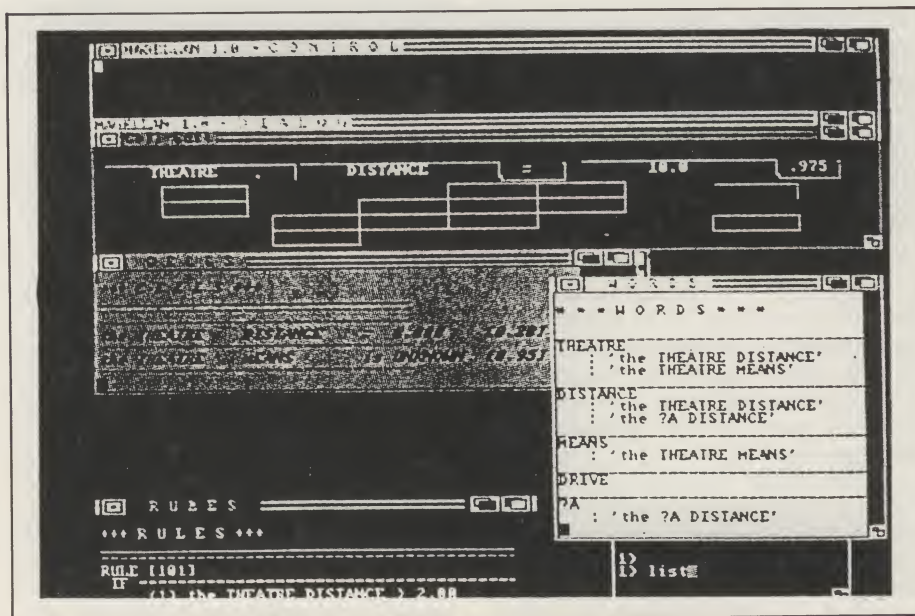
Magellan uses rules of the IF THEN variety. To create such rules you simply select the 'create rule' option and then complete the details in the rulebox window. You create rules about objects, their attributes, the associated values, and the relations which exist between them. A threshold parameter allows you to attach a degree of certainty which must be recognised before the rule is used by the system. A certainty parameter allows you to assign a probability to your conclusions contained in the rule.

The rulebox window therefore allows you to describe your knowledge model using rules of this type:

**IF object / attribute / operator / value / threshold and/or ... (further statements allowed).**

**THEN object / attribute / operator / value / certainty and ... (further statements allowed).**

Many operators can be used including 'is', 'is not', 'are', 'are not', all common mathematical relational operators, PRINT and SHOW (used to display IFF pictures). Two operators of special importance are 'PARSE', which enables the value of a mathematical expression to be determined, and EXECUTE which allows a CLI based command to be executed. Despite the impression given by the outer cover advertising material Magellan cannot, at this moment in time, interface with spreadsheets and data-bases. Emerald Intelligence are however working on an ARexx interface and this hopefully will be included in the 1.1 release which



cont. on next page



continued from page 45

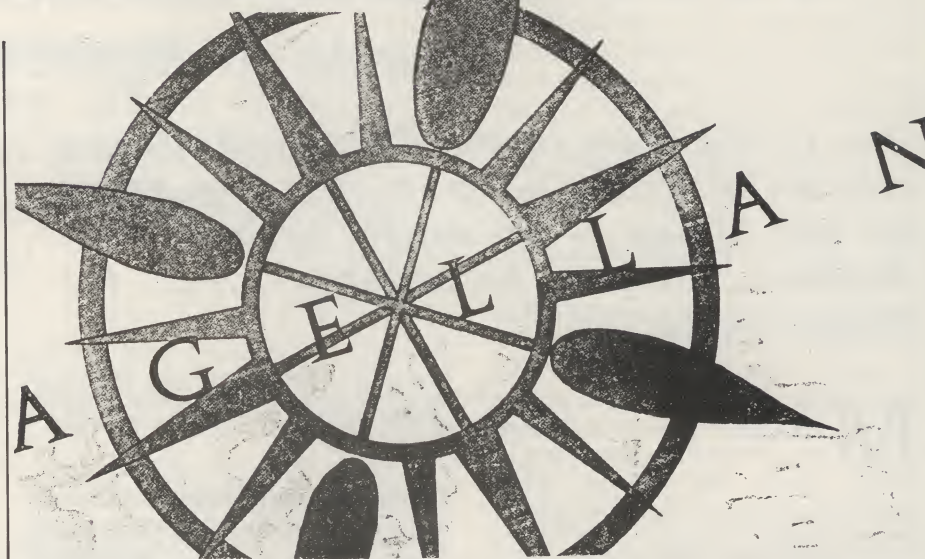
## MAGELLAN

should be available in a few months time.

Each rule that you create with Magellan becomes associated with a collection of object-property-value triplets. One of the things I liked very much about Magellan is that you can attach to these 'cells' sets of 'legal answers'. If you are creating an expert system for novice users then the ability to restrict the type of answer a user can give to the system is absolutely essential. If for instance you have rules concerning the physical characteristics of objects specifically classed as gases, liquids and solids then when the system asks you to define the 'type of material are you investigating' and you answer powder, vapour, solution etc, the system will tell you it knows nothing about such objects. In the above example we could actually create the set of legal answers, i.e. gas, liquid and solid, attached to the appropriate cell. When the system then needs to know about such objects it will include appropriately named gadgets for the user to select from. Visual prompts can also be attached to cells as can symbolic variables which allow a value to be dynamically assigned to a cell during the inference processes.

***"It is possible to take a word or phrase from the dictionary and define a synonym."***

The system builds a dictionary containing words and phrases used within the knowledge base. The dictionary can be edited and amended independently and most of the complaints I would make in this area are minor ones e.g. the listing facilities are a 'bit primitive'. There is however a serious problem concerning the implementation of Magellan's recognition of 'synonyms'. It is possible to take a word or phrase from the dictionary and define a synonym. Synonym connections between dictionary terms have to be made prior to their use within a rule — this is a bit of a disadvantage because synonyms tend to come to light DURING development of an expert system rather than being known at the early stages. Agreed, you can live with this limitation providing you know about it — but



unfortunately that is not the end of the story. Items defined as synonyms only seem to be effective if the relevant rules are using the data items as objects. . . It appears to fail in all other cases. If, for example, we were dealing with an object classed as a 'compound' and include the synonym 'chemical' then if Magellan asks you for the type of object and you reply chemical . . . all is well. If, on the other hand, you have ethanol and ethyl alcohol defined as a pair of synonyms and a specific rule which says that "if the chemical's name is ethanol then it is kept on shelf 1" then problems occur . . . if you attempted to deduce the location of ethyl alcohol — Magellan would fail because it will not recognise the chemical's 'name' as a synonym definition even though the definition is present in the dictionary. To be fair I have talked to Emerald Intelligence about this problem and they were very helpful. They are already aware of this particular weakness and are expecting to remedy the situation in time for the 1.1 release. In most other respects Magellan has behaved satisfactorily . . . so its as well to keep things in perspective.

Magellan can forward chain using all known facts to make deductions, can backtrack to find the answer to a specific question, and can also use a combination inference approach. If it needs additional data during these processes then it will ask for it. Magellan can attach IFF pictures to cells and rules so that you can display graphics when they are required, and you can incorporate speech as well via EXECUTE in rules or by selecting the appropriate 'output mode display option'. A supplement to the manual

outlines some recently added facilities including the creation of user definable goals and the ability to send a transaction file copy of the user interaction to a disk file.

Magellan costs £195.00. This is expensive and at this price the package should not have the rough edges that it has. I suspect that there was pressure to get the package out and in the market place first. With this objective Emerald Intelligence have succeeded — to the best of my knowledge there are no alternatives to Magellan on the Amiga. Because of this you may, like me, feel that 'this is a package you MUST experiment with'. There is quite a lot about Magellan that I like and, despite the problem areas, I would continue to work with Magellan at the present time. Nevertheless I have got to be honest. . . If there were an alternative package for the Amiga I would be unlikely to buy Magellan in its current state.

Since there is no alternative it comes down to whether you are prepared to accept the current shortcomings to gain experience with an expert system shell. I personally will not feel comfortable until I have seen the improvements that come with version 1.1. What I will say is this . . . if the difficulties with synonyms are cleared up, ARexx is implemented, and the package is 'tidied up a bit', then I will be first in the queue for **AUI's** review space so that I can tell you about it.

P.L.

Contact: Emerald Intelligence. 334 South State Street, Arbor, Michigan, 48104. Tel. 313 663 8757.



# ESCORT 2

*Memories are made of this — a new man-size RAM board is dynamically tested by Peter Lee. But does it miss the bus?*

**N**ext to an additional disk drive, the item at the top of every Amiga user's shopping list is usually a memory upgrade.

Programs have evolved to such a complexity that additional RAM is hardly a luxury anymore — it is a necessity. And for any kind of serious application, one megabyte is the barest minimum, with some utilities hungry for even more capacity.

But add-on memory is hardly cheap; it is a major investment, and one which you will have to justify in terms of your need to run the programs which demand it. It is a must for anyone seriously into graphics and animation, and business applications seem to devour however much RAM you have available. Desktop publishing also makes large overheads on memory and many other programs — some games included — will not run with insufficient memory.

This is where the Escort 2 MB RAM board from Californian firm Expansion Technologies comes in. This contender for your cash has a neat twist — you can slot in another board and double the capacity to 4 megs, which although sounding like overkill is a serious idea when you consider how the Amiga multi-tasks. With enough memory you can run a spreadsheet and word processor side by side, and also a desktop publishing package with which to present your work.

The Escort 2 was tested on an A1000 with 512K on-board RAM. It seemed vast at the side of my regular Comspec 2MB RAM expansion, measuring an alarming 25cm high, 23.5cm wide and 5.5cm deep. It is supplied in a cream-coloured, sturdy metal box and has a bus

pass-through to allow other peripherals to be added.

But before you get too excited I have to say that a further power source will be needed if you add any other boards to the one which carries the existing 2MB — or, surprisingly, if you simply want to use the expansion bus. You see the supplied memory board uses the 1 amp/5v source which the Amiga allocates to the bus, leaving no power available from the computer itself.

Not only that, but if you do add another expansion board you will have to make a minor alteration to a jumper inside the box. I don't know about you, but whenever I read a passage in a manual which says something like "WARNING Do not operate the second slot or pass through without an external power source" I tend to reach for the nearest expert . . . This expansion potential does have its benefits though — instead of adding another RAM card you could just as easily fit an internal hard disk controller card. And if you have the ability, you can populate the expansion board with chips you have bought separately. They need to be 256K dynamic RAM of 150 nSec or faster.

If you cannot fill the whole board at once you can install 1, 2 or 4 rows of 16 chips each at a time to build up your memory gradually while budgeting for the expense. Again, a job not to be taken lightly considering how delicate the chip pins are, and how careful you have to be about static discharge.

Once the chips are installed on this expansion board, you have to make an alteration to two DIP switches depending on your available memory. Fitting the board is a

precise operation which among other things involves making sure that three tracers have been cut on your expansion board — otherwise you could wreck both your boards!

The only problem arose because of the sheer volume of the RAM box; in an age when miniaturisation seems to be the goal for everything, I am surprised Expansion Technologies thought big was beautiful. I have my monitor slanted across the CPU case — a comfortable set-up I had to re-arrange to make way for the unit. It also looked somewhat out of place, like a clog alongside a fashion shoe.

Still, looks are not everything and your sensibilities may not be as acute — it does the job, and if you don't mind its bulk then who am I to argue? The manual supplied with Escort 2 is a flimsy 9 page affair with an additional 4 page leaflet; information is well presented, and there are five diagrams to locate the parts referred to in the text. Warning notices are well placed and clearly presented.

## CONCLUSION

I have to say this would not be my first choice of an expansion RAM module. It does not score highly on appearance, and the upgrade path from 2 to 4 megs is a precarious journey for people like me who have learned their lessons the hard way (having just this month blown up my digitiser!). But I recognise there are people who might enjoy popping in 64 256K RAM chips, which after all would be a good way of saving money if you shop around for your memory. The actual ability to upgrade to 4 megs is in itself a big plus, and this may prove the deciding factor for many would-be purchasers. I can tell you that even 2.5 meg is often just not enough for the number of applications I need to run. Having invested in this great powerhouse of a computer, to chain it to 512K or even 1 megabyte of memory seems a waste, so I would strongly advise the investment in extra RAM. But as to recommending this product, I would have to say examine it closely to see if it fits your requirements.

**P.L.**

**Contact: Precision Software Ltd, 6 Park Terrace, Worcester Park, Surrey KT4 7JZ. 01 330 7166.**



# BINARY SORT

In the last article I dealt with sorting members of an array into alphabetic order. The members of the array consisted of a single record but with slight modification the previous programs could be used to sort records where only part of the record was to be used as the sort key. Once sorted the array could be written out to a file. At the end of the article a file called 'TEST FILE' has been printed. The file consists of records that have a 4 byte key followed by a product description. The file is sorted into strict ascending key sequence. To assess the full potential of this program I suggest you invent further records for 'TEST FILE'.

The principle of the binary sort is to divide the sorted list into two by selecting the middle record. Assuming the record that was selected was not the target record but was, in fact higher, then only the records above the middle record are of interest. The process is repeated using the upper half of the list and again repeated this time with quarter of the list until the target is found or there is no list to divide.

If a file contained 100 records then on average, using a sequential search method, 50 records would have to be read to find the target. This average is only true when the target is actually always in the file. If this is not the case then the average will be larger than 50.

Using the same file in a binary search routine the worst case is when the target key does not exist. In this case the file

would have to be read 7 times to find out the target key does not exist.

\*\*\*\*\*

## Binary Sort

Author John Gardener

This program searches for matching key within an array. The members of the array must be in ascending order. In this example the key is the first 4 bytes of the record.

\*\*\*\*\*

```
IF EOF(1) THEN GOTO fileend
NEXT i
fileend:
CLOSE#1
records = 1
```

```
*** get an initial key
CALL getKey(key$)
```

```
*** search for key
mid = 0
WHILE (key$ <> "")
  high = records
  low = 1
  WHILE (high >= low)
    IF high-low <= 2 THEN
      FOR i=low TO high
        IF LEFT$(array$(i),4)
          =key$ THEN mid=i
      NEXT i
      GOTO leave
    END IF
    mid = INT((high-low)/2)+low
    test$ = LEFT$(array$(mid),4)
    IF test$ = key$ THEN leave
    IF test$ > key$ THEN high =
      mid ELSE low = mid
  WEND
  leave:
  PRINT
  IF mid = 0 THEN
    PRINT "Unable to find key ";
    key$
    PRINT
  ELSE
    PRINT "Record = ";array$(mid)
    PRINT
  END IF
  CALL getKey(key$)
WEND
```

```
WEND
leave:
IF mid = 0 THEN
  PRINT "Unable to find key ";
  key$
  PRINT
ELSE
  PRINT "Record = ";array$(mid)
  PRINT
END IF
CALL getKey(key$)
WEND
```

```
*** subroutine to get [key]
SUB getKey(key$) STATIC
PRINT "Enter the KEY you wish to
  search for"
PRINT "or just press RETURN
  to exit"
INPUT key$
END SUB
*** End of Binary Search
Program **
```

0002	10mm nuts
0003	10mm washers
0015	hand brush
0016	broom
0017	yard brush
0100	13amp plug
0110	single socket
0111	double socket
0120	junction box
0125	2.5mm three
	core cable

The following should be keyed into a file called TEST\_FILE. To get a better understanding of the speed of this program the file should have at least 50 entries in it. The first 4 characters are the key and the keys must be unique and in ascending order.

JG



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# CAPTAIN

One of the best qualities of good computer games is their ability to transport us to another place, much like a well-made film can carry ink other dimension or other people's lives. The difference between games and films is that in a game you are not merely an observer, but play the leading role. In reaction . . . Captain Blood is a prime example of how this can be achieved. In this case whisking you off to a galaxy inhabited by many races of intelligent (and not so intelligent) aliens which for a change are more than just victims of mad aggression and your frenzied laser-fire.

For once the background scenario to the game makes for some very entertaining and useful reading. Bob Morlok, failed games programmer, had had enough of his uninspired poverty-stricken days out of work. Pulling himself together he set to work on what would be an intensive six month project, hurriedly tapping out the code for his new creation. Entering the final instruction he sat back and sighed (has this man never heard of debugging?) before Running the list for the first time.

This is where things start to get weird. Bob Morlok (or Blood to his fans) was instantly zapped into his own game! Finding himself in an enormous space cruiser under fierce attack from hundreds of fighters, Blood jumped into hyperspace to avoid the aggressors. A bug in the hyperspace routine caused a nasty side effect, cloning Blood thirty times, starving him of his vital life-fluids. With the help of his on-board computer, Blood tracked down all but five of the clones, but that was not enough. The rest must be found and this is where you come in, taking control of a weakened Blood in a race against time to track down those remaining five.

Since the accident, Blood has become more and more artificial after numerous robotic-implant ooperations performed by the computer in order to keep him alive. This is evident in his arm which has now taken on a semi-bionic look. You begin in orbit around one of the few inhabited planets of the galaxy. Your ship is far too big to land on its surface, so you send down a genetically enhanced alien known as an oonxx. Its version is



screen in the ship and its flight is controlled via the control panel. In effect, you are the oonxx in the landing sequence.

The mountains of the planet surface are seen as 3D vector-like images, giving a good effect of movement. Using the indicating cursor you soon reach the trench, at the end of which you find your first alien. In all there are thirteen different races, each with its own distinct character and intelligence level, and all are drawn and animated superbly.

As there are well over 30,000 planets in the galaxy and only a very small number of those are life-supporting, tracking down the clones is not easy. The way to do it is to talk to the aliens and try to get as much information on other inhabited



planets as possible. Each alien talks in a different language, so an interpreter is needed. This comes in the form of UPCOM, an interface which translates words and expressions of any language into icons. When an alien speaks to you, icons pop up on the UPCOM where they can be read as English, French or German words by running Blood's finger across them. Each alien has its own set of sounds that accompany the icons, adding a lot of the realism. Speaking back is a reverse procedure (choose your words from a scrolling bar of icons and send them back to him).

Some creatures ask for help in battles against their enemies (go and blow up the planet of the nasty Croolis-var, please), others are just lonely and need a friend. Help them and they will help you (usually). A pen and paper are essential to jot down all the co-ordinates and information you squeeze out of the aliens. Without co-ordinates of significant planets you could be drifting through space for the rest of your short lives.



Jean Michel Jarre has supplied the loading music, and although the sample is a little unclear, the originality and atmosphere of the piece suit the game perfectly. All the sound effects in the game are equally impressive, such as the speech confirming operations from the control panel and the characteristic voices of the aliens. Complementing these are some superb graphics, the amazingly psychedelic colour cycling on the hyperspace and planet destruction sequences are brilliant.

Captain Blood is not an easy game to get into. Attempting to understand it without properly reading the background and instructions is impossible. You have to be prepared to sit down with it and not get anywhere for a while to make any progress. I originally played it on an ST a few months ago, then on the C64 and now it has appeared on the Amiga. I am still only just getting the hang of it! Something I found can help after the course of a conversation that is getting nowhere, is to talk a bit of jibberish, just select some icons at random and see what response you get. That is about the only help I can give you, apart from advising all sci-fi fans and adventurers alike to hunt down a copy as soon as possible. Captain Blood is something very special indeed — an achievement of quite extraordinary imagination and challenge. It will appeal to any intelligent gameplayer. No wonder Epyx are involved in a merger — taking over — with Infogrames. Captain Blood alone should make the deal worthwhile.

T.H.



Graphics : 9  
Sound : 9  
Playability: 9  
Value: 9  
Price: £24.95

# BLOOD

Infogrames



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# AMIGA OUTRUN!

Graphics: 8  
Sound: 9  
Playability: 7  
Overall: 7

Price £19.99

**T**hought you would never see Outrun on the Amiga? I did, but I was wrong for once!

Do not expect a pixel perfect replica of the massive coin-op, there is only so much an Amiga can do, or should I say ST? Yes I am afraid the core of the program has changed little from its ST origins, but bear in mind the ST version was pretty good anyway.

A totally over-the-top intro fronts the game. A gruff voice announces "US Gold present: from Sega . . . Outrun!" Psycho-style music and the sound of a 2CV with a dodgy exhaust pulling away boom from the speaker; stupid but a good laugh all the same! The loading screen is a very accurate copy of the coin-op's game screen, which makes the real game screens come as a bit of a disappointment.

*"Although smaller than those of the arcade, the hills in the road are very effective and add a lot to the game."*

The Amiga Outrun's main problem is that the view from behind the car is most of the time too low giving the impression of constantly approaching the brow of a hill. Apart from that, the 3 D works well at high speeds. Although smaller than those of the arcade, the hills in the road are very effective and add a lot to the game. The forks at the ends of stages have been reproduced with dividing rows of shrubs, splitting the road into a dual carriage way. Just about all the other features are there, the three soundtracks, the progress map, spectacular crashes and all the stages.

One oddity — or a piece of weak programming — is that when the car turns to the right the passenger and driver reverse positions. I wouldn't try that in a real drive if I were you!



Most of the graphics have been redrawn from the ST version except for the surprisingly plain Ferrari. The engine revving and rubber burning sound effects are best turned off as they tend to drown the music. Even though the names of the tunes have been mixed up, they are all very close copies of the originals.

I would have liked to see a whole

new Amiga version rather than a tweaked ST game, but fortunately I liked the Atari version a lot in the first place. There is a lot of room for improvement (look out for Outrun Europa coming soon) but I like Outrun on the Amiga, even if it does have those outlawed grey stripes across the road!

T.H.





# Opus-1

## A Music Composition Language For The Commodore Amiga

Opus-1 is a Music Composition Language (MCL) designed for the Amiga. Music is written with word-processor, such as Scribble!, and compiled by the program. The compiler creates music files in the standard Amiga music format, known as IFF-SMUS. Music created by Opus-1 can be played by other music programs, such as Deluxe Music Construction Set or Aegis Sonix. However, these programmes are not essential for music playing, because Opus-1 also includes a full-specification music player which supports Amiga instruments and up to 16 midi instruments.

Opus-1 is a new idea for music composition. Normally computer music is entered either with a midi sequencer, or with notational programs such as Deluxe Music Construction Set. These techniques can make music entry very time consuming and tedious. Opus-1 is designed to complement other music programs on the Amiga and work as part of a suite of packages all of which specialise in different aspects of music composition on computers.

The Opus-1 compiler is very fast. Its interactive environment means it may be left "running" in the background, with other packages also active on the Amiga.

\* Opus-1 will be available in December 1988. Price will be £86.91 (ex.VAT) £99.95 (inc.VAT).

\* Opus-1 is available from Ariadne Software Ltd.

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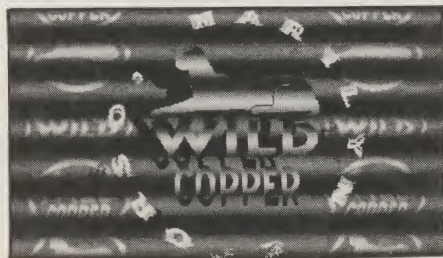
## Free, Gratis and Practically for nothing

***Julia Forester takes a look  
at some fun programs you  
can show to your maiden  
aunt, plus some useful  
utilities for the beginner***

**A**NYONE who reads this section regularly will no doubt remember the king of PD, Fred Fish. This remarkable guy seems to spend most of his time *swimming* through the vast resources of the American bulletin boards and *codling* together disks full of the best in PD software. At present there's nearly 200 Fish disks which means you would have a real *whale* of a time trying to *fish out* what you want — (But whales are mammals! Ed).

Enough of the jokes about Fred's name. To save you a lot of time and money searching for what you need, Fred has compiled the three disks of the best PD software around — the so-called Goldfish collection. Rather than launch into a lengthy discussion about these I will just select some of the best.

From GF1 my personal favourite has to be Robotroff, this is one of those really cute demos you cannot help falling in love with. It runs from either Workbench or CLI and runs in the background. After about two minutes a little *Robotron 2084* robot wanders onto the screen and pinches the mouse pointer. In the same drawer there is even a version of lunar lander, using small intuition windows as landing sights and some workbench versions of the definitive Amiga bouncing ball.



Also from GF1 is a very nice 3D animation program called ROT. This allows you to design an object in three different planes then rotate it through with three degrees of freedom. The

rotation is performed by first drawing the object as a series of solid frames and then flipping through them like a cartoon. Remarkably, even with the memory restrictions of the unexpanded A500, ROT still manages to store up to 25 frames of animation. When you have finished the objects and animation sequences can be saved separately. Admittedly, it is not much use but unlike many Amiga demos it's fully interactive.

From GF2, I have to agree with Fred — my choice for an everyday communications package would have to be Comm. This remarkable piece of free software has more features than some commercial packages I have seen. However, being American in origin the autodial feature will not work on the outdated pulse dialing system in use in the UK and some parts of Europe. This is because the system uses the Hayes ATDT command to force the Hayes compatible modems, like my Linnet, to use tone dialing.

That aside the rest of the program is quite superb and entirely menu driven. File transfers by ASCII,

***"The main screen  
features all of the  
standard CLI commands  
in an easy to use form —  
just point and click. A  
supplementary section  
is supplied for user  
defined programs."***

XMODEM and WXMODEM are supported as are all speeds of the Amiga's port (some packages see to forget about 19200 baud). There's even split display mode where your input is restricted to the bottom line of the screen leaving the rest of the screen free and uncluttered by

modem commands, logins and so on.

If you need to use the Kermit protocol, which allows batches of files to be transferred using a wildcard filename (XMODEM and ASCII don't) a separate version is supplied with this disc. If you have never used Kermit however, you would be well advised to at least read the instructions since it's command line driven like CLI and a real beggar to understand. Alternatively, several universities around the world have their own versions of Kermit and can supply manuals for a small fee.

Penultimately this time, if you have not yet mastered the Amiga's CLI or just do not like typing, 17bit's compilation of CLI utilities disc 146 is well worth the meagre sum of £2.50, although some of the best stuff on here is shareware. In particular, CLI Wizard is one of the best CLI tamers I have come across, far better than the commercial offering Climate. The main screen features all of the standard CLI commands in an easy to use form — just point and click. A supplementary section is supplied for user defined programs, although 17bit include a few useful utilities here for you.

Before I finish, a special mention has to go to 17bit's disk 176 — the Wild Copper demo. This must rate as an Amiga classic, the mainly original music is quite superb — produced on Sonix and the graphics quite stunning. Especially with the section where the Wild Copper team have turned the usual scrolling message into a complete spinning circle, complete with shadows behind the letters. Great stuff.

All disks this month courtesy of those nice lads at Seventeen Bit Software, PO Box 97, Wakefield WF1 1XX. Tel: 0924 366982.

**J. F.**



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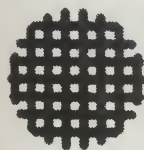
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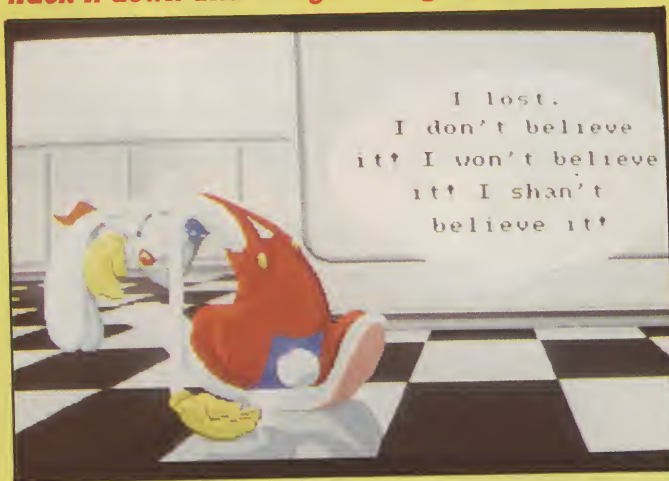
# WHO FRAMED ROGER RABBIT



## Buena Vista

**R**oger Rabbit may be surfing a wave of popularity in the box office, but at the same time may be set to wipe out in the computer game of the film. The question is not so much who framed Roger Rabbit, as who programmed Roger Rabbit.

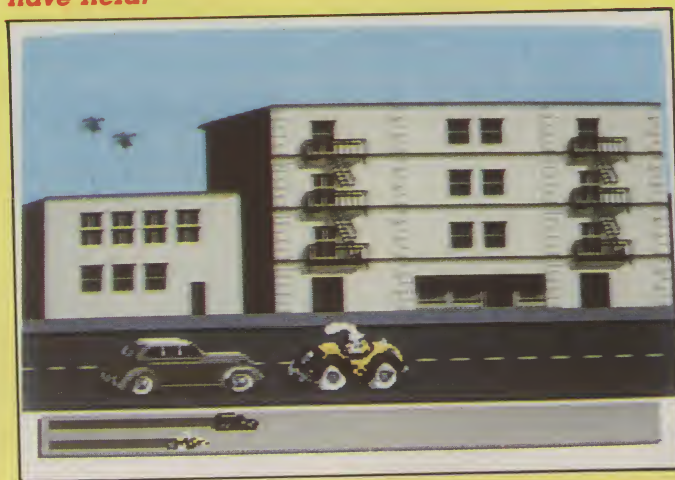
The year is 1947, the location Hollywood. Roger Rabbit is a cartoon superstar, who unlike other cartoon characters, has a life outside the flicks. Roger is an ordinary rabbit who chose to make a career in cartoons and up until now was getting along just fine. Marvin, the owner of 'Toontown has been murdered and Roger has been framed by nasty old Judge Doom'. Marvin's will has been stolen, so to clear your name you have to track it down and bring in Judge Doom.



After a long, drawn out loading sequence the first of the game's three stages begins. You are at the wheel of Benny the Cab, a car with the ability to leap over obstructions and rise up on his accordian suspension. A busy two lane road is the most direct route to The Ink and Paint Club (where the will is being held). This scrolls jerkily from right to left with Benny the Cab at the bottom of the screen. Cars drive in both directions and in both lanes, so to avoid a crash, flick the fire button to send Benny leaping through the air. Crashes with other cars lose you time, and driving through puddles of "Dip" will take away one of your five lives. Reach the club

and you can prepare and eat a three course meal, wallpaper the back bedroom, have a snooze or whatever takes your fancy for the next few hours while the second part loads.

At the club there is a lot of confusion concerning the will. Laid on the tables are loads of papers that just might be the will, and the only way to be sure of finding it is to grab them all. Roger runs in circles around the tables, picking up papers with a press of the fire button. He runs so fast that drinks can easily be picked up in the panic, causing Roger to go loopy. All the time you are collecting the papers, penguin waiters are re-laying the tables, a gorilla patrols the bottom of the screen and it all had to be done before the band stops playing. The controls are really simple and the amount of papers you have to pick up means it goes on for ages. Frustration and boredom overshadow any addiction it may have held.



Stage three is a similarly uninspired romp in a gag factory, where you fight off the baddies with practical jokes.

All the sprites are very well drawn and the jazzy soundtracks create the right atmosphere. Where it falls down is that the three games are far too plain, not to mention annoying. More time is spent loading the game than playing it, and worse than this is the fact that the program shuts down after the end of a game, so all you can do is reset and load the whole thing again! What a shame. Roger Rabbit is clearly built to make it very big on the big screen but on your home set may well carry too small a charge to bring more than a flicker of interest.

T.H.

Graphics: 7  
Sound: 6  
Playability: 3  
Value: 3  
Price: £29.95

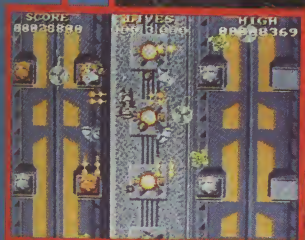


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# HELLFIRE ATTACK

Martech

**W**hile US Gold and Mediagenic have paid big money for the conversion rights for Thunderblade and Afterburner, Martech are cashing in on both games' popularity and have combined the two in Hellfire Attack.

Your mission is simply to gun-down as many enemy aircraft as possible in your Super Cobra chopper. You have two weapon types: cannons and missiles. Providing your target is not about to leave the screen, these missiles assure a hit but are in limited supply. Although a glance at the game would lead you to think it was a straight Thunderblade clone, it plays far more like Afterburner. All you have to do is fly over forests, towns and oceans, dodging and shooting planes and helicopters that appear on the horizon.

*"A turbo boost attempts to inject some life into the game and turns the helicopter upside down if you get too near the edge of the screen."*

At points in the game, you discover bases where you can land and re-stock yourself. A player-controlled landing sequence could have added little welcome variety from the simple blasting, but the chooper does it all automatically making it rather pointless. The scenery changes with the levels but never gives a satisfying impression of movement. The ground features look more like they are on a rotating cylinder as they pop up and down. A turbo boost attempts to inject

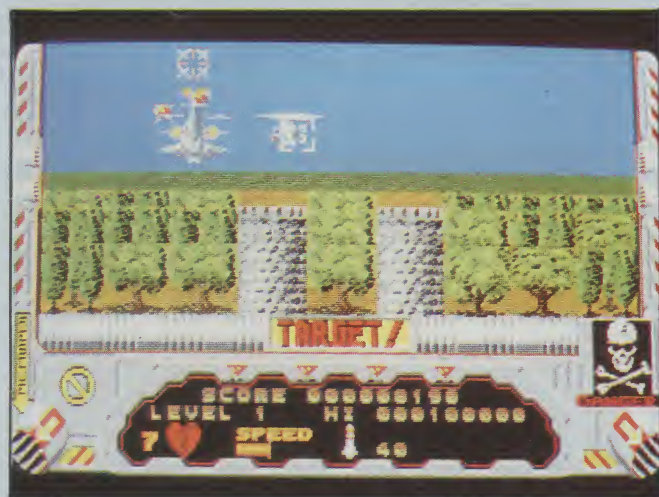


some life into the game and turns the helicopter upside down if you get too near the edge of the screen (very logical I thought).

Just flying along shooting planes is not enough to keep me entertained, at least not when there are no impressive sounds or graphics to liven it all up. I would imagine flying a helicopter is a unique experience, but the one in Hellfire Attack handles just like any spaceship or fighter plane you could find in numerous other games.

With gameplay as simplistic as this, Hellfire Attack holds very little hope for long term appeal. Unlike Thunderblade, every level is just like the last and the changes in scenery make no difference to the flow of the game. A few meaty sound effects are desperately needed. The shy rumbles made by exploding jet planes are drowned out by the hum of the chooper blades. Hellfire Attack is just too uneventful to make the grade and at a penny under £20 is not a good buy.

B.V.



Graphics: 5  
Sound: 3  
Playability: 3  
Value: 4  
Price: £19.99



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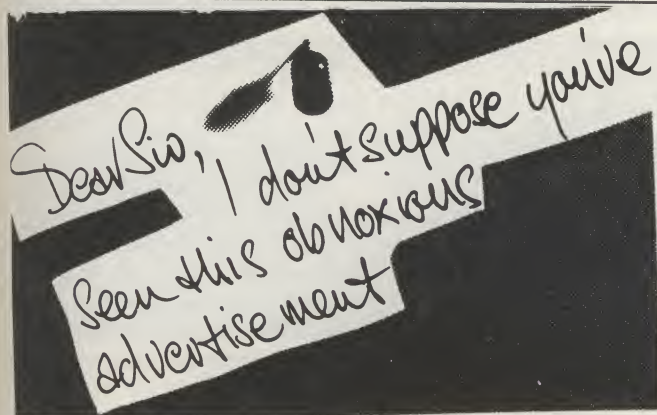
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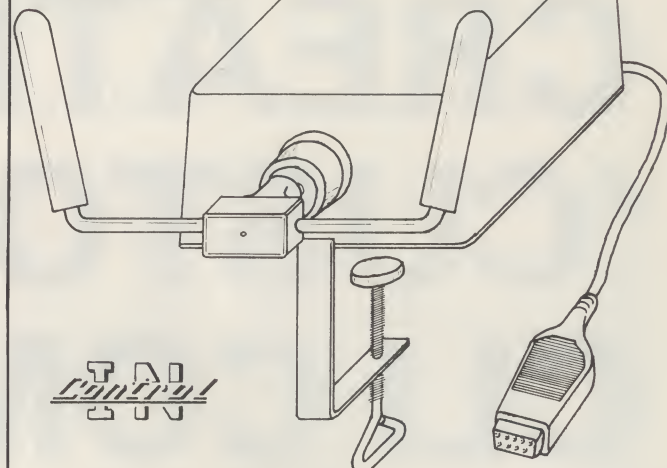
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# CREATING A 'CUSTOMIZED' CLI COMMAND

**A collection of AmigaDOS calls without tricks, Susan Maxwell, helps those new to the Amiga Assembler scene.**

Here is a very short piece of assembler which can not only be turned into a 'run-able' program but could possibly form the basis of quite a few 'Workbench Utility' type programs. It uses the fact that AmigaDOS is able to perform command sequences which have been stored in memory as NULL terminated text strings just as if they had been typed at the keyboard.

The program code is quite straightforward ... it is a collection of AmigaDOS calls without those clever but customized 'twin CLI' command but the ideas could be used to provide all sorts of additional Workbench tools.

The listing is short enough to type in and you should not have too much trouble creating a working version. If you are new to the Amiga/Assembler scene it might be the sort of example that could help. Do not forget that when you come up via the Workbench you do not automatically have anywhere to send your output. My solution, at least for this example, is to open a 'sink' window before trying any output stuff (that way we avoid upsetting the system). I have put lots of additional comments in the code but here is the general strategy that has been followed.

1: OPEN DOS LIBRARY

2: OPEN A 'SINK' WINDOW FOR INITIAL OUTPUT

3: PRINT A 'SIGN ON' MESSAGE

4: CHECK THAT ANY NECESSARY COMMANDS ARE AVAILABLE

5: EXECUTE THE COMMAND LINES EMBEDDED WITHIN THE PROGRAM

6: CLOSE THE 'SINK' WINDOW

7: CLOSE DOS LIBRARY

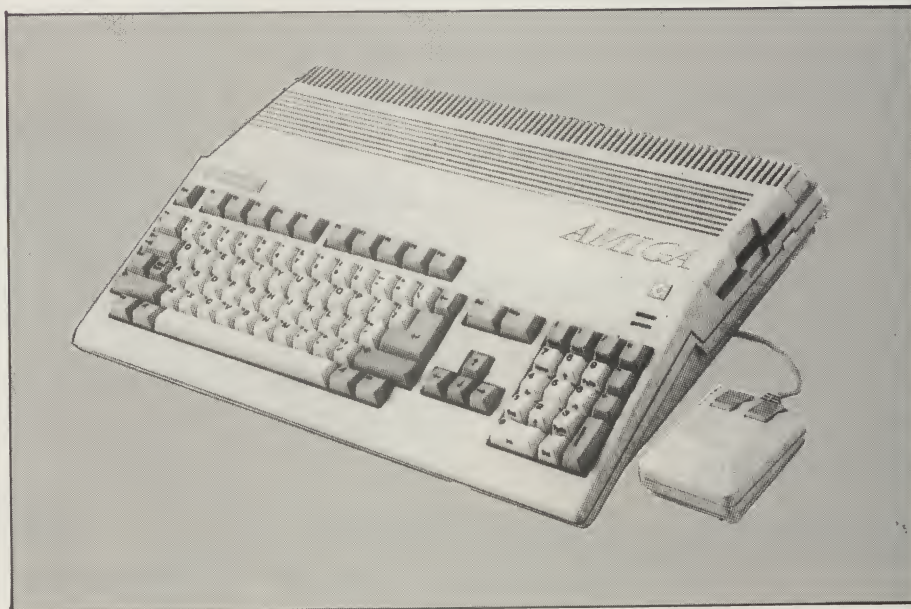
8: RETURN TO THE WORKBENCH (OR CLI) ENVIRONMENT

The example program can either be used from a CLI window or driven via a Workbench icon. If you want the icon driven form you have

to use IconEd, or a similar program, to create an icon with a corresponding 'info name'.

The 'start-up' code needed for the Workbench is a 'pain' and not recommended to beginners. Luckily you are unlikely to have to write your own because commercially available assemblers usually provide some form of skeleton code that can be used. The HighSoft DevPac assembler that I used comes with an include file called 'easystart.i' ... all I needed to do was specify it as an 'include file' at the beginning of the program.

**SM**





# Syntax

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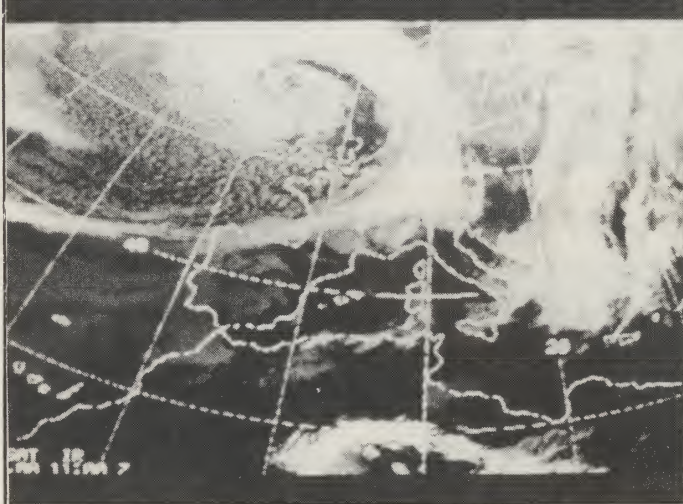


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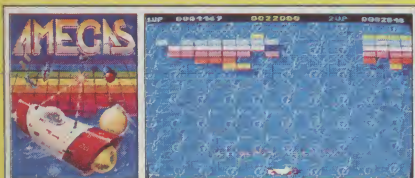
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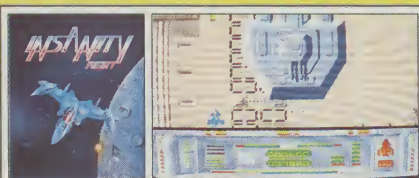
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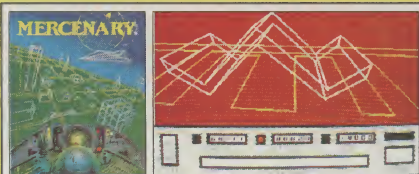
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**I** HAVE just had an almighty fight. . . . And I lost!!!! (Again!) An opposing army totalling some fifty thousand assorted warriors, riders and sorcerers had suddenly appeared from nowhere and was busy hacking my so carefully assembled army to bits!! What I have been playing is a new release from Mirrorsoft: "Sorcerer Lord" by PSS.

Now PSS is not a name that you might immediately associate with a title such as "Sorcerer Lord". But when you consider that this particular company is possibly in a class of its own, when it comes to bringing theatres of war to a computer, then it should come as no surprise to discover that Sorcerer Lord is billed as "A Fantasy Wargame"!!



Based on their renowned system, PSS have replaced the normal array of military hardware and men with one of "sword and sorcery". Out go the tanks and armoured cars, the nearest thing to a tank in this game is a "Shadow Legions Rider" who is armed to the teeth and gets around on the back of a huge wolf!

The scenario here is that the reigning Shadowlord has died and the new guy wants to show everybody who is boss. So he gets together the remnants of his race and decides he's going to take the Rune-Rings away from his neighbours in Galanor. To do this, he uses his powers to create the legions of Wolf riders and warriors, with "warped and enslaved" men as their commanders. These are the Shadow Legions.



On the side of Galanor, the three kingdoms that make up Galanor form an alliance, consisting of elves, barbarians, warriors and riders. Some of these prefer to fight in the open, some in the mountains. Others have some magical powers and may use sorcery to aid them. In overall command of the Alliance is a Sorcerer Lord, and there are no prizes for guessing which part YOU get to play!

The game is divided into distinct phases of movement, combat and alliance. The Shadowlord gets top move and initiate his combat first. You then get to strengthen your alliances before moving your forces into position and entering combat. The outcome of each battle depends on the number of men, the type of combat which they are skilled and whether either side is able to use sorcery to help them. (I was once facing less than a thousand men with over three thousand of my own, but was wiped out by a sorcerer!).

The playing map is two screens wide by three high and gives a very good impression of a 3D landscape, viewed from above. Features such as

# SORCERER LORD

hills, forests, lakes and mountains are clearly visible and well defined.

*"Dotted about the landscape are various Fortresses and Citadels in which reinforcements may be found or armies meet and combine."*

The various units that make up your available forces are depicted by their individual emblems. Placing a large cursor over any unit will allow you to move that particular unit or get details about the number and type of men in it.

Dotted about the landscape are various Fortresses and Citadels in which reinforcements may be found or armies meet and combine.

At the start of play, the Shadow Legions control eight of these, whilst the Alliance can lay claim to a total of twenty-two.

To those that have not played this sort of game before, the movement may seem a little strange as it is based on a hexagonal grid. This means



that there is no direct Up/Down movement but once you get used to it, it does not detract from the gameplay at all.

There are three levels of play; beginner, advanced and expert. I would advise anybody, even experienced wargamers, who have not played this type of "Fantasy" game before, to start with the beginners setting. I had a VERY brief encounter when I tried playing at the Expert level!

There is some use of sound effects during the movement and combat stages but they are rather weak and I used the option to turn them off.

The only negative point about "Sorcerer Lord" is really more of an annoyance than anything else. When a unit is moved from once screen to another, the monitor/tv screen is blanked for a couple of seconds. This is perfectly acceptable whilst you are making your moves but when the computer is making the opposition's moves, should there be a number of crossings, it turns the screen to "flash", which in turn, makes it very difficult to see exactly what is going on.

Other than that, I enjoyed "Sorcerer Lord". The game is not too complex to put off the beginner and I am sure that a more experienced player, would give the computer more of a challenge.

Don't misunderstand this game. It is not an "Arcade Game", it is a game of pure strategy that has its roots firmly in the realms of fantasy. Whilst the purists among the computerd-wargaming fraternity might turn their noses up such a conception, I am sure that many of you will find this a refreshing change.

N.S.

RATINGS: Graphics: 6; Sound: 2; Playability: 8; Overall: 7; Price: £24.99

# SORCERER LORD

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# MIDI:

## AN INTRODUCTION

### Part III

**T**he extent to which individual pieces of MIDI equipment implement various MIDI facilities can vary enormously. Because of this it is necessary, before you purchase a piece of MIDI equipment, to know which MIDI functions are supported and which are not. The 'MIDI Implementation Chart' is a way of presenting this information in a concise and fairly standardised form. You will find such charts in the instruction manuals of almost every piece of MIDI equipment on the market, so it's well worthwhile learning how to understand them.

A MIDI implementation chart is essentially a four column table describing MIDI function names, transmission characteristics, reception characteristics and any associated remarks which will assist in the interpretation of the chart.

Figure 1 shows a blank MIDI implementation chart reprinted by courtesy of Yamaha Kemble Music (U.K.) Ltd. The fields present in the chart are used to provide the following information. . .

- 1: Type of product
- 2: Name of model
- 3: Date of chart preparation and version number
- 4: The data in this column shows the transmission characteristics of the unit, i.e. it tells you about the types of messages that the particular unit can send to other units.
- 5: The data in this column show which types of MIDI messages can be 'understood' by the equipment.
- 6: Default MIDI channel number. If channel number is 'memorized' then this will be shown in the remarks column.
- 7: This entry shows whether it is possible to change the basic channel number of the equipment.
- 8: This gives the default MIDI mode, i.e. the 'power up' mode state.
- 9: Details of the mode messages sent and received if any.
- 10: Mode chosen if the unit receives a mode message that it does NOT understand.
- 11: Range of MIDI note numbers than can be transmitted and received. Often the reception range is wider than the range of notes which can actually be played by the instrument. Notes at the extremes may be automatically trans-

posed up or down until they fall within the range of the sound generators.

12: This entry shows the pitch range of the notes that will sound in terms of the MIDI note numbers. You'll get an indication of the transposition effect mentioned if the true pitch range shown here is less than the reception range given in the previous field (11).

13: Shows whether touch response information i.e. velocity data, can be transmitted or received. Synthesizers which send such data need to have touch sensitive keyboards but you'll find that most 'non touch sensitive keyboards' units are able to use velocity data being sent from another source.

14: This field gives details of the 'Note Off' velocity characteristics.

15: This section tells you whether the unit can send or receive aftertouch data. You'll find quite a few 'non touch sensitive' synthesizer units around which are able to receive and use aftertouch data being sent from another source.

16: This field will tell you whether or not overall 'Channel pressure' data can be transmitted or understood.

17: This tells you whether pitch bend information can be transmitted or recognized and will contain additional data about the resolution available.

18: Control change information is provided as a table showing controller numbers, their effects, and other implementation details.

19: This will tell you whether program change messages can be sent or recognized.

20: This gives details about the range of program change messages which the unit will recognize.

21: If system exclusive data can be sent or received than entries in this area of the implementation chart will show this.

22: Shows if 'song pointer' messages can be transmitted or recognized.

23: Tells you whether song select messages can be sent or recognized.

24: If the unit can send or respond to a 'tune request' then you'll find 'yes' entries in the appropriate columns.

25: This will tell you whether MIDI training clock messages can be sent or recognized.

26: Shows whether start, continue, or stop commands are transmitted or recognized.

27: Will show whether local ON/OFF commands are supported.

28: If a unit transmits a message when 'all notes are off' then you'll find the details in the transmitted column. If the 'all notes off' message is understood you'll find details in the 'recognized' column.

29: Tells you whether the unit supports 'active sensing'.

30: Tells you whether the 'system reset' command is implemented.

31: Additional information relevant to the MIDI implementation of the product.

Figure 2 is the implementation chart for Yamaha's RX21 drum unit. Here's a brief run down on what the chart actually tells us about an RX21. . . It can be set to receive MIDI data on ANY of the 16 channels and because the current channel setting is memorized you could turn the unit off and on without losing the channel setting. It operates in mode 3, i.e. OMNI OFF — POLY, and does not transmit any instrument note data. It can however receive and use MIDI note data in the range 45-60 and the nine values that are meaningful are outlined as a footnote later in the table . . . the values given correspond to the individual 'drums' available on the RX21. Notice that the unit will respond to 'note on' velocity data which means that if you were driving the RX21 from a touch sensitive master keyboard (or from sequencer patterns created from such a keyboard) then you would have access to accents and dynamics that would not be available to someone just using the RX21 keypads alone. Notice that the unit will recognize song position messages and will both transmit and receive a limited 'song select' message range. The unit transmits and recognizes the 'real time' commands and can transmit and receive MIDI clock data. It can also send and receive system exclusive messages and the remarks column tells you that these messages involve both bar patterns and whole song information.

So that in a nutshell is the 'MIDI Implementation chart'. It provides a concise summary or 'overview' of the all important characteristics that a MIDI compatible piece of equipment will have.

Now that we have covered the MIDI specification and explained the purpose of the Implementation Charts its time actually to do a bit of programming. The first obstacle which has to be overcome concerns the Amiga's serial port. Next month we will see what has to be done to get it to read MIDI data.

P.A.O





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# AMIGA





# BACKUP AND RECOVERY

***Batch processing, online systems, error recovery...? John Gardener takes a look at big-time backup techniques***

## **The early batch systems**

**B**ack in the days when programming was done on punch cards, files (databases as such were to come later) were normally kept on tape. To update one of these files the source tape (often known as the father) was loaded. The information to be processed was normally kept on either punch cards or the paper tape. The program read the source file and the update information to produce a new tape file (often known as the son). If the information was considered to be vital then at least one copy of the new tape file would be made. This backup tape would normally have been stored away, perhaps in another building, away from the original. If the update process failed then the recovery consisted of starting again from scratch. Failures were indeed frequent because punch cards would get wrecked and paper tape snapped.

Program and system failures were also common, the software was extremely complicated. The primary reason for this was the lack of storage, a medium system could have 4k of memory whilst a large one could have as much as 8k! Programs, of course, were normally bigger than this so to accommodate them a technique called overlay programming was used. The way this worked was to have a nucleus part of the programming was used. The way this worked was to have a nucleus part of the program which would load into

memory (overlying the previous occupant) the other part of the program that was to be used. Assembler programmers would further complicate matters by creating 'subroutines' of half a dozen lines of code just to save one or two bytes. Although the programs would perform checking functions recovery was normally non-existent because it would take up too much room. This meant that a syntax \* error on the input data would cause the system to crash.

\*A syntax error is caused by mis-keying preset data codes e.g. if you keyed PRITN instead of PRINT in a basic program then basic could not interpret it and this would be considered to be a syntax error.

## **Batch processing; the later years**

By the arrival of the now ubiquitous disk a revolution in data entry had occurred. Medium size processors, now with storage sizes of 16k and larger, had VDUs attached to them. The punch operator, still named although no longer using punch cards, would key the data from the input documents but now the syntax checking was done by a program running in the processor so errors were corrected at an earlier stage. Mis-keying of information such as price could still be done so to overcome this the information was keyed twice, by two different people and the original was checked with the new verified copy. If they did not match

they had to be rekeyed (this principle had been used on punch card systems but the system was more prone to error).

***"What happens if you remove one of your disks whilst your Amiga is writing to it?"***

One of the problems with these systems is what happened if the system crashed. Punch cards were easy — you just repunched the torn card but now the data was on disk and you did not know what state the files were in. This problem is with us still today; what happens if you remove one of your disks whilst your Amiga is writing to it?

Batch processing today still resembles what it used to, an original file being processed with updates from another file creating a third file. Of course the update file could be the keyboard and whilst I am correcting this article I am in this mode. Should I get a 'Guru Meditation' during my corrections then I get the last saved version and start the updates again.

## **Syntax checking**

I have cited several times syntax checking and it is worth mentioning a couple of techniques used for this. The most basic is to check the field against a predetermined set of values, the keywords in basic are an example of this. When databases were kept on tape or other non-direct access media then the previous technique would be too slow if the check list could not be kept in memory. A technique to overcome this was check-digits. A typical method was to add a final digit to a code so that when all the digits in the code were added together the result

*continued on page 75*

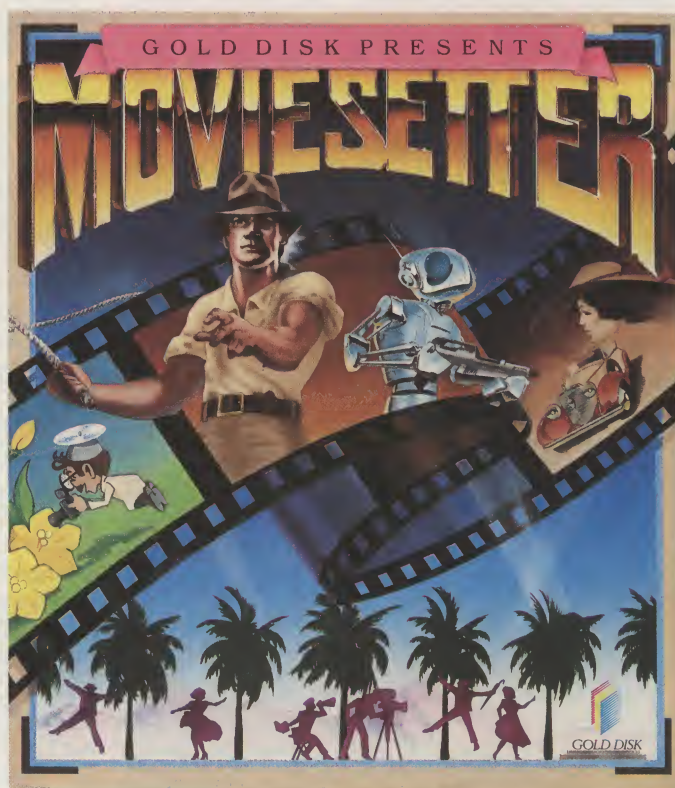


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# THE DTP SHOW

*Daphne Moss went wysiwygging around the show that says anyone can be, be a publisher... well nearly anyone...*

**'88**



Last year's U.V. Desk Top Publishing Show came at the same time as the 'big storm' which hit the attendance figures. This year, however, no such bad luck befell the show and from the amount of people at the Business Design Centre, in Islington, I would say that it seemed to be a resounding success. There seemed to be many more exhibitors, better planned stands and more, and better informed, salespersons and there were certainly many more visual aids.

Mitsubishi must have been very proud of themselves, for many stands had obtained this company's huge V.D.U.'s on which to demonstrate their wares. It did make the programs much easier to see, particularly if there were crowds around the stand during the demonstration.

Most companies were showing updated versions of their DTP packages. Mirrorsoft had 'Fleet Street Editor' Version 3.0, which has an enhanced graphics library, (don't worry if you still have the older versions, though, as by visiting your local dealer you can get yours updated on payment of about £60). They were also giving out information about 'The Advertiser's Collection', a new clip-art publishing package providing a variety of frames and panels for inclusion in display advertisements, which will retail at about £29.999 plus VAT.

Digital Research had the 'GEM DTP Release 2' whose new features include high performance on both low-end and high-end PC's, automatic hyphenation for eight international languages and 'tracking' for adjusting interletter spacing on a paragraph basis.

Graphic Sciences were making a big splash with NBI's 'Legend' a system which avoids the necessity to import text files from word processing packages by incorporating a fully-featured word processor with its own editing capabilities written in.

There were also the show 'laun-



ches'. Thermoteknix Ltd, the image processing company, brought out LazaGRAM and LazaGRAM Reporter. The first in their DTP documents and with LazaGRAM Reporter users can capture video input, from camera or VCR, for inclusion in their DTP applications. And for all you new Fleet Street Editor users struggling with your manual and getting nowhere, Alamwise Ltd have come up with what they think is the answer — a DTP distance learning course. Its a step-by-step tutor which includes software, twelve lessons — each of increasing complexity — relevant projects and self-assessment tests. It can all be done at home, in your own time and the cost? £175.00, inc VAT, (which includes Clip-Art library disks), if you already have the program; £249.00 if you want the program as well.

What was at the show for Commodore/Amiga owners interested in DTP? I could only find Gold Disk's Professional Page 1.1 but it is rather impressive, especially as it has very good typographic control, excellent use of colour and can output text and

structured graphics in 127 colours. So, for a price of around £250, its hard to beat.

**"Gold Disk's Professional Page 1.1 is rather impressive, especially as it has very good typographic control, excellent use of colour and can output text and structured graphics in 127 colours."**

Burocare Computer Systems had what I thought was a real winner. The 'Polaroid Palette Plus' it is a high-resolution image recorder producing instant computer generated prints, slides and overheads. Its a WYSIWYG image recorder, for whatever is on-screen is what comes out as the end product, all done in a matter of a couple of minutes. The print illustrated here was done for me, as I waited, literally almost before the demonstrator could answer my 'How does it work?' It won't be out until January

but for any DTP (commercial) users with a couple of thousand pounds (sterling) to spare it will be a very useful buy.

As for the DTP Awards, the Chairman of the judging panel, Michael Barnard, production director of Macmillan Books, said that he and his fellow judges were 'very impressed by the progress made in DTP at the top end of the market — particularly in-house newspapers and magazines but ... advertising (was) most disappointing. It seems the advertising industry has not realised the full potential of DTP'. Mr Barnard felt that 'new technology was so substitute for design and training'.

The show, was a great improvement on last year's. DTP is still, comparatively, in its infancy, I can't wait to see what it will be like when it finds its feet and starts to walk.

## THE DTP SHOW '88

D.M.

*continued from page 72*

would always be a multiple of 11, e.g. the code 123 would have 5 appended to it, the code 650 would have an A appended to (A representing 10).

Fields that contain values or quantities are more difficult to check. Remember the stories about little old ladies receiving gas bills for £1,000 a quarter. To overcome this they made an estimate, prior to the meter reader coming to the house, of what the reading ought to be and if the reading was, say, more than 10% out then another reading would be made.

### Online processing

By now you will probably have realised that most, if not all, the processing on your Amiga is a batch process, true online techniques are more complex. Take, for instance, a sales/stock inventory system, a famous high street store makes good use of one of these.

Batch processing is no good here, if you started off in the morning with an accurate representation of the stock position and at lunch time the system crashed, could you imagine the chaos in the afternoon? You go to order a radio, the stock check says there are 2 but, after paying for it, they then inform you they have none left because they probably sold them in the morning. No, that would be no good at all. I

suppose you could take a snapshot of the file every fifteen minutes but this would not be totally effective and it would certainly be expensive on disk space.

Most of these systems rely on keeping a file of changes. Taking our example the first type uses a file that is accurate at 'start of day'. Each stock change writes an entry on a delta file. This delta file is a simple sequential file which is easy to recover. Only the last entry in this file, in the case of system failure, is considered to be 'in doubt' and therefore needs some form of recovery. This system has two basic flaws. The first is that to inquire on any stock item requires getting the 'start of day' total for the item and then reading the entire delta file to check for changes. With small delta files this is acceptable. However, as the delta file increases, the processing time for each item of stock takes longer. The second flaw is that there is a periodic update function to merge the 'start of day' file with the delta file to produce an 'end of day' file. This type of system, therefore, cannot be used for continuous access.

Another method is to have two identical files at 'start of day'. The first is updated as stock changes the other is used for recovery. Each stock change is written on a log. The log is again a simple sequential file. When a

stock change is required an entry is written on the log to indicate that a stock change is about to happen and what the item and quantity is. The main file is then updated. This file is direct access and a failing record may be difficult to identify. Once the main file is updated the log is updated to indicate that the change is complete. Should a failure occur whilst updating the main file then we have a record in the log that shows a stock change started but incomplete. To recover this item the stock item's record is read from the backup then the log is read for all stock movement relating to the item in question. On completion the stock item's record will have been recovered.

'End of day' processing consists of switching to a new log and taking a new backup of the main file. The process must be able to handle the situation of a stock change being in flight when the backup is taken. This method, although more complex than the other, does ensure that the main file is online, except for down time, 24 hours a day and that all stock processing is done against a direct access file.

Next time you use an online application try and guess if it is really online or if, in fact, it is a form of batch processing. Most financial systems are still actually batch processes.

J.G.



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## DTP and the AMIGA

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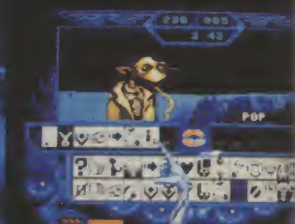
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# Amiga Answers

**Dear AUI,**

I would like to refer to your magazine of October 1988 issue regarding the question of reader Mr Anjum Khan, particularly concerning his second question.

Personally, I have been typing several AmigaBASIC listings from your magazine as well as other European and/or American magazines and have not been able to run the published programs because one of the lines refers to "graphics.library". On the EXTRAS disk I have seen the FD1.2 drawer and in it you find "graphics\_lib.fd". Upon clicking the CONVERTED icon the program prompts you to enter the name of the .fd file to read. When I enter "graphics\_lib.fd" the error of FILE NOT FOUND appears. Also entering "graphics.library" without .fd could not be of any success.

Could you therefore be so kind as to explain once again, if possible, step-by-step and in layman's terms, how to get this "graphics.library"? I also need, for other program listings the "dos.library" and "diskfont.library", which are also in the FD1.2 drawer.

To conclude this letter I have a last point in connection with Mr Phil Wilkes' program under the title "SLIDING PICTURE PUZZLE", on page 47/48 of the above-mentioned October 1988 issue. It is a great pity that this program listing is very small indeed and you can hardly distinguish the difference between quotation marks (" ") and the asterisk (\*), even by using a magnifying-glass. I look forward to receiving and/or seeing your response in the not too distant future, for which please accept my sincere thanks. With your response a novice like me would be very grateful indeed.

With kindest personal greetings,  
Yours sincerely

**K. H. TJOA, AMSTERDAM, THE NETHERLANDS**

**Dear K. H. Tjoa,**

Let me start by giving a brief description of what libraries and .fd and .bmap files are. The Amiga's powerful operating system includes many hundreds of very powerful machine language sub-routines. These are arranged, for convenience sake, into

different libraries. For example, the Draw() function is in the graphics library. These libraries are stored either in the Kickstart ROM of your Amiga or in the libs directory of your Workbench. The more commonly used libraries are stored in the Kickstart ROM, simply because they operate considerably faster from there. Most of the facilities provided by these libraries are already supplied by AmigaBASIC itself. However, in some cases it is either advantageous or essential to use these libraries.

For further information on the contents of the libraries see the "Amiga ROM Kernal Manual: Libraries and Devices".

For AmigaBASIC to access these libraries it must be provided with lists of the functions, where to find them, what information to send them and what information to expect in return. This information is supplied by the .bmap or bitmap file corresponding to the library that you want to use. In turn, the information required to compile the .bmap file is supplied by the corresponding .fd or function definition file. The program that converts the .fd files to .bmap files is called ConvertFd and, as you have already mentioned, this can be found in the BasicDemos drawer on the Extras disk.

Now for the specifics. The graphics library, as you can imagine, is one of the more popular members of the Amiga's set of libraries, and as such it sits in the Kickstart ROM. Therefore, you need not worry about finding it on one of your disks; it is present from the moment your Amiga is turned on. However, one thing you will need is the graphics.bmap file, which incidentally is already present in the Basic Demos drawer tucked away out of sight. Therefore, in this case you would not actually need to use ConvertFd. However, for when you do need to use ConvertFd I will describe what to do: first copy the ConvertFd program into the FD1.2 drawer on your Extras disk. This must be done because AmigaBASIC will only check the current directory for the .fd file. Then double click on ConvertFd's icon to run it. You will then be prompted for the name of the .fd file to convert. In this case, you would enter "graphics\_lib.fd", and don't

forget to include the speech marks! The graphics\_lib.fd file will then be duly converted into the graphics.bmap file. In order to use the graphics.bmap file just include it in the same directory as the program that you want to run. For any of the other libraries, just follow the above instructions but replace the word graphics with the name of your required library.

**Dear AUI,**

I would appreciate knowing if the following have been made for the Amiga 500, and from where I can obtain them:

1. Hebrew fonts
2. An astrology program

Thank you very much.

**CAROL ROMAN, SANTA MONICA, USA**

**Dear Carol,**

1. As far as I have been able to discover no-one has yet produced a Hebrew font either commercially or in the public domain. I do not know how many letters the Hebrew alphabet has, but bear in mind that you can only have a set of 256 different characters, some of which are reserved. However, if this is enough, you might consider designing your own; either using Calligrapher or one of the many public domain font editors.

2. Again, as far as I have been able to discover no-one has yet created an astrology program. I do know of a Biorhythms program though. It is on the AmBa (AMiga-BASIC) Disk number 1, which is only available through the UKAUG. This program by Keith Hobley also includes a group compatibility test, which caused a few rows at the UKAUG when we recently ran it.

**Dear AUI,**

I am pleased to inform you that I am a new and proud Amiga user. I have several questions for you, which I hope you can answer.

1. What is an XT Bridge Board?
2. How many drives can you add to an Amiga 500?

*continued on page 80*



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continued from page 78

3. What is UNIX?
4. Can you run UNIX on an A500? I know you can on B2000. If not, is it because the A500 isn't very expandable? However, I believe that there is some new device out which plugs into the A500 and makes it almost as expandable as the B2000. If you had this device could you then run UNIX?
5. Finally, can you install a 68020 or 68030 processor in an A500?
6. Is there an ST emulator on its way, and how much will it cost?

Yours faithfully

**NICHOLAS M. PHILLIPS, LLANELLI, WALES**

**Dear Nicholas,**

1. The A2088 XT Bridge Board as its product number suggests is an add-on board for the Amiga 2000. It is supplied with a 5.25 inch drive and it allows the Amiga 2000 to run MSDOS software. As its name suggests, the bridge board bridges the gap between the Amiga 2000's Amiga-type slots and its PC-type slots. This not only allows the use of MSDOS software, but also allows you to use boards designed for PCs inside your 2000.

2. AmigaDOS is at present capable of addressing four floppy disk drives: "df0:" through "df3:". However, if you are using an Amiga 500, I would recommend that you only use one external floppy disk drive that draws its power from the Amiga 500's power supply. If you use more, you may find that you will overstress the Amiga 500's already hard-worked PSU. Don't forget Amiga 500 PSU's are very expensive to replace. You should be able to get an external floppy disk drive with its own power supply for around 130.

3. UNIX is a very powerful operating system, which has some similarities to the Amiga's. UNIX was written mainly in C and the system requirements to run it are very extensive; well outside the grasp of a standard Amiga 500 anyway.

4. As I have mentioned UNIX will not run on a standard A500, it will not even run on a standard B2000. In fact the B2500UX promised by Commodore earlier this year is still not available. Commodore's new product information on the Amiga UNIX system stated that the minimum configuration would be a B2000, A2620 Co-processor board (including 68020, 68881 and 68851 MMM), 4Mb 32-bit memory and a large hard disk. So, in realistic terms I would say that it will be a long, long time before UNIX systems find their way into the home.

The devices that you mention, that allow you to use A2000 peripherals on an A500 are usually fairly expensive. Therefore, if you were looking for a more expandable system, I would suggest that you look at buying the real thing!

5. No you cannot install a 68020 or 68030 straight into an A500, some sort of interface board will be needed.

6. As far as I am aware an ST emulator for the Amiga is only a rumour!

**Dear AUI,**

I am turning into a regular reader of yours, as I find your magazine very interesting, full of details about programs, and very practical. My only wish is that you would deal more with "serious" programs, especially programming languages and AmigaDOS.

I'd like to know if there is a "Prolog" disk for the Amiga; I find it amazing that there should be such languages as APL or Lisp, clearly for the specialists, whereas the language hailed as the fifth computer generation leader, based on innovative verbal schemes that we are more familiar with, is absent from the market. Could you please name one I could rush to buy?

Thanks if you can give me the answer. It's real fun to read your magazine and that's why you're on top.

Bye, bye

**ALDO MONTERISO, MILAN, ITALY**

**Dear Aldo,**

The public domain comes to the rescue again. On Fish disks 140 and 141 there is SB-Prolog a prolog system. These disks include compiler, libraries and source. Rush to your usual PD supplier or the UKAUG!

**Dear AUI,**

I enjoy your magazine's format and I cannot find another magazine which comes close. Could you answer a few of my questions? Firstly, could you tell me why my OKIMATE 20 does not work properly with the printer driver supplied with my Amiga 500.

I also bought this printer to go with my C128. Could you give me full details of how to implement my own custom printer driver.

Lastly could you suggest some books to learn machine code on the Amiga. I can already write machine code programs on the 6502/10 and 8020/Z80 so I really need a book which is more on the Amiga than machine code as the transition to 68000 should be easy. Other books I am looking for are on the Amiga operating system and on learning C.

Yours faithfully,

**SHAUN TREMAYNE, REDRUTH, CORNWALL**

**Dear Shaun,**

The OKIMATE 20 driver provided with Workbench 1.2 and 1.3 for that matter, is to the best of knowledge in full working order. You might check the preferences of graphic select screen for your current settings.

In order to use the OKIMATE 20 with your C128 you will probably need to write a BASIC to program, using your printer's control codes to access the features that

you require. The Amiga is one of the few computers that uses global printer drivers, i.e. all the programs on the Amiga can use the same printer driver to access your printer. The C128 does not use printer drivers in the same way. However, you might find some software for the 128 that already supports the OKIMATE 20!

There are three good books on the Amiga and Assembly Language. All three are excellent so I would recommend that you, if possible, visit your local dealer to give them a quick perusal. The three books are: Amiga Assembly Language Programming published by Wiley, Amiga Machine Language Guide by Compute!, Amiga Machine Language by Abacus. You should find that any one of these will get you going. I have heard that if you can program the 6502 you can program anything!

**Dear AUI,**

I own a Brother EM511 electronic typewriter which is a very advanced machine offering justification, centring, RMF, etc. I would like to connect it to my Amiga 500 but before I spend £180 on the interface, I would like to know if I'm going to have problems with software that doesn't support such printers.

I have not yet committed myself to any particular piece of software and would like advice on what to buy, bearing in mind the Brother printer. I need a wordprocessor, a database and a good label printer. I have considered Word Perfect and Superbase Personal.

I have been to my local dealer and written to Brother with this query and came away with nothing more than the price of the interface.

As a regular reader of AUI, I know that I will receive a more helpful reply from yourselves.

Kind regards,

**TOM McQUIGGAN, BOLTON, LANCs.**

**Dear Tom,**

You should find that once you have got the parallel interface for your typewriter that you will have few problems setting up. The Brother once connected will respond to the normal ASCII codes, all you will then need is to set up a driver to access your printer's special features. If you are considering Word Perfect, you will find that its PrintDef program allows you to do exactly this very easily. Therefore, I would definitely recommend WP. Superbase Personal will also suit the printer, as it requires only a simple back-spacing printer.

Problems usually only arise with printers and Amiga printer drivers when trying to access graphics. Daisy wheel printers are not capable of producing graphics, therefore your problems, I would predict, will be minimal.



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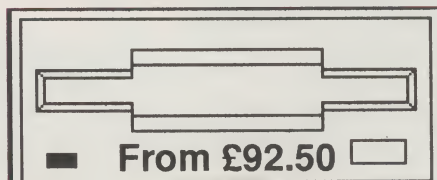
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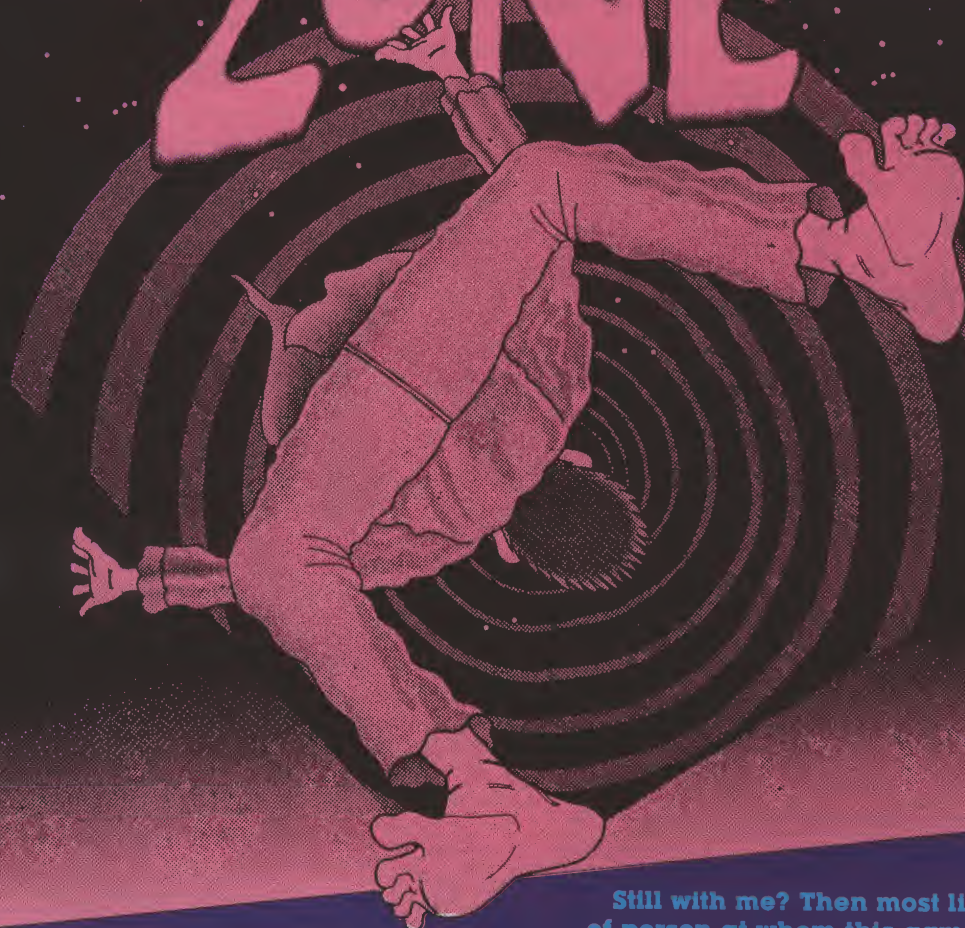




## DREAM

Baudville

ZONE



*Julia Forester, your glamorous personal analyst, invites you to come in, lie on the couch, relax, close your eyes and enter the Dream Zone . . .*

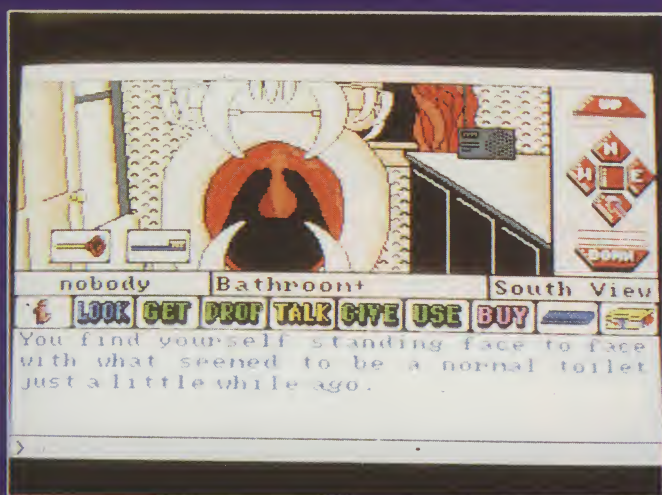
**T**HE psychiatric profession 'the shrink' is constantly satirised by someone or other, but Baudville's new graphic adventure for the Amiga really does take the biscuit. Along with a semi-WIMP control system developed mainly for Apple Macintosh users — who apparently prefer not to use keyboards — it also hails a new era for the Amiga User of worthless smut, needless violence and vast tracts of immorality. (Do I hear your cry 'About time too?'). Just how low does the software industry have to stoop to entertain? That may be a question you are then delighted to ask.

Still with me? Then most likely you are the sort of person at whom this game is aimed. Provided you have a reasonably warped sense of humour and a few months to spare, you should greatly enjoy solving this extremely outlandish fantasy set entirely in the land of nod.

The plot goes like this: Troubled by night after night of chronic insomnia, you decide to seek the advice of a professional. Through a curious twist of fate you find yourself in the capable hands of the eminent shrink Dr Sigmund Fraud. (Great fun that!). Speaking with a decidedly curious Germanic accent, Dr Fraud informs you a terrible creature has inhabited your subconscious mind — and is playing baseball with your brain during your sleeping hours. The only way to rid yourself of the beast is to confront it. Giving you a curious potion, he packs you off home and tells you to sleep — if you do not escape your dreams, you will not survive.

And so the game begins. Supplied on two disks, it runs on any Amiga with at least 512k memory. After the now compulsory loading





screen, the main screen appears. This is split into six separate areas: the menu bar, picture windows, control panel, information/verb line, command line and a very small description window, a large one is not necessary since the descriptions are brief to say the least. This is obviously no Infocom game. In fact, Dream Zone is not unlike some of the Mindware games — Shadowgate for example — currently being ported from the Apples, but lacks their overt sophistication.

This WIMP control system is quite good enough. If you have never used any of these systems before, a word of explanation. Most text and graphic adventures use a system by which the player types what he or she wants to do, in the form of simple instructions like, GET PYJAMAS for instance. Some companies, most notably Infocom, have refined this system so the user can now enter long sentences — the technique remains the same however.

***“Spending too much time gazing in wonderment at the transformation of your mother’s bathroom decor, will see you swallowed up by a voracious man-eating toilet.”***

The WIMP way of doing things is much simpler and will appeal greatly to those who prefer Workbench to the CLI, as well as the one-fingered typists among us. Instead of typing what to do, you simply point at the relevant verb (command) icon with the mouse and click the button. If the command involves doing something with an object — as most do — you simply point and click on the object. In Dream Zone the icon bar contains nine commonly used verbs plus a further nine accessed by double clicking.

As graphic adventures go, the pictures are only average, although the first few black and white screens while you’re awake — like in The Wizard of Oz — are magnificent digitised stills. When you do manage to get to sleep, the display turns to some quite ghastly, partially animated

cartoons with some vivid use of colour. From here on in, all is not what it seems. For example, spending too much time gazing in wonderment at the transformation of your mother’s bathroom decor, will see you swallowed up by a voracious man-eating toilet.

After finding your way into the dream zone itself your problems are only just starting. For the early stages, the authors appear to have borrowed some ideas from the Terry Gilliam film — Brazil. Like the main character in Brazil you are likely to spend a lot of time wondering what is going on, while ploughing your way through the bureaucratic corridors of the Department of Information trying to obtain a particular form.



After finally admitting my whimpishness, I opened the clue sheet and discovered I had to resort to theft and violence in order to get what I wanted. The immorality of this game does not just stop at violence though, during the later stages you actually have to swear at the parser — using any suitable four letter word that springs to mind — to get to a particular location.

Overall, Dream Zone is a real software nasty. It’s rude, lewd and lacks any obvious sense of moral value. The parser is primitive to the point of awful and the descriptions lack any sense of decent English, even the music is gross — it can, however be switched off. In its favour are the terrific puzzles — well into the Infocom league and a cutting sense of black humour. This is definitely a game for adults only and great fun into the bargain. If you’re new to adventures though, get the clue sheet or you will end up consulting Dr Fraud. Grudgingly but highly recommended.

J.F.

Sound 4  
Graphics 7  
Playability 7  
Value 7  
Overall 8  
Price: TBA



# MARIA'S CHRISTMAS BOX

**Anco**

**S**trip poker returns to the Amiga, only this time you are pitted against everyone's favourite fun-loving gal, the ever-bright and bouncy (and I do mean bouncy!) Maria Whittaker.

Anco have taken their existing Strip Poker II game, replaced the usual two girls with Maria and added some tinsel for a bit of Christmas atmosphere. Both players begin with 100 credits to play with. When either player loses all their money, another 100 is exchanged for an item of clothing. Keep up a winning streak to strip your opponent.

*"What we have here is not so much a hardcore slideshow as a saucy family card game, great for Christmas (tell that to your granny)!"*

The graphics are a lot clearer than in previous strip poker games but are still a bit fuzzy in places. Now the question is, does she get them off? I spent quite a lot of time finding out but the answer is, in a word, no. Unlike Amiga's previous stripper she does not bare absolutely all. What we have here is not so much a hardcore slideshow as a saucy family card game, great for Christmas (tell that to your granny)!



I suppose the extra fiver added to the price of the original game is meant to be justified by the inclusion of a more well-known model. In fact there is less here than in the previous games, cutting down the value rating. Once you have completed it there is very little incentive to return, and at fifteen quid it could be an expensive way to ogle Maria's attractions, unless you enjoy playing a game of poker and of course that's whawt this all about isn't it? You could have worse presents than pretty Maria in your (or her) stocking!

B.V.







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SOF49 - FONTS & FONT UTILITIES  
SOF50 - Printer Driver Generator  
SOF54 & 55 - The brilliant NEWTEK demo.  
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SOF57 - WORDWRIGHT Word processor

SOF59 - JUKEBOX MUSIC demo, great samples  
SOF60 - Digitised music, over 11.5 hrs worth!  
SOF66 - FIVE sampled tunes - half megs only  
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SOF69 - CLASSIC ARCADE/BOARD GAMES  
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# READER SURVEY

## AMIGA USER INTERNATIONAL

Amiga User International has been a separate publication for almost 12 months now and we feel it's been a great success. However, we'd like you to help us to make it even better — just by filling in this simple survey, it'll only take a few minutes. As an incentive, we're giving away some of the latest and finest Amiga leisure software to the first 11 replies pulled out of the sack (well it's a bin actually). You can leave sections blank if you find them too personal, but we must have your address if you wish to be included in the draw.

*Just by completing the survey you could win one of these fantastic prizes:*

**Eco (Ocean)** — The game of evolution  
**Winter Games (Epyx)** — Superlative snow-style action  
**Out Run (U.S. Gold)** — Fast-paced fun in a Ferrari  
**Bionic Commando (Go!)** — Super-hero arcade action  
**Garrison II (Rainbow Arts)** — Rumbles in the Dungeon  
**Birdie (Access)** — The legendary golf simulation  
**Wizard Warz (Canvas)** — Monsters and magic

### Section I

**You — first and most importantly**

- 1) Where do you live?
 

<input type="checkbox"/> Australia	<input type="checkbox"/> British Isles
<input type="checkbox"/> France	<input type="checkbox"/> Germany
<input type="checkbox"/> Italy	<input type="checkbox"/> North America
<input type="checkbox"/> New Zealand	<input type="checkbox"/> Scandinavia
<input type="checkbox"/> Other (state).....	<input type="checkbox"/> Switzerland
- 2) Sex:
 

<input type="checkbox"/> Male	<input type="checkbox"/> Female
-------------------------------	---------------------------------
- 3) Age:
 

<input type="checkbox"/> Under 15	<input type="checkbox"/> 15-20	<input type="checkbox"/> 21-25
<input type="checkbox"/> 26-30	<input type="checkbox"/> 31-40	<input type="checkbox"/> Over 40
- 4) Marital Status:
 

<input type="checkbox"/> Single	<input type="checkbox"/> Married
<input type="checkbox"/> Divorced	<input type="checkbox"/> Other
- 5) Do you describe yourself as:
 

<input type="checkbox"/> An absolute beginner
<input type="checkbox"/> Knowing a little about the Amiga
<input type="checkbox"/> Knowing the Amiga very well
<input type="checkbox"/> An expert
- 6) Which of the following best describes your professional activity:
 

<input type="checkbox"/> Unemployed	<input type="checkbox"/> Student
<input type="checkbox"/> Teacher	<input type="checkbox"/> Banking/Insurance
<input type="checkbox"/> Service	<input type="checkbox"/> Medical
<input type="checkbox"/> Military	<input type="checkbox"/> Manufacturing
<input type="checkbox"/> The Arts	<input type="checkbox"/> Programming
<input type="checkbox"/> Publishing	<input type="checkbox"/> Engineering
<input type="checkbox"/> Electronics	<input type="checkbox"/> Sales
<input type="checkbox"/> None of the above. Please state	

### Section II

**Your equipment**

1) Which of the following do you own/use:

	Own	Use
A500	<input type="checkbox"/>	<input type="checkbox"/>
A1000	<input type="checkbox"/>	<input type="checkbox"/>
B2000	<input type="checkbox"/>	<input type="checkbox"/>
TV	<input type="checkbox"/>	<input type="checkbox"/>
Lo-res monitor	<input type="checkbox"/>	<input type="checkbox"/>
Hi-res monitor	<input type="checkbox"/>	<input type="checkbox"/>

2) How many floppy drives do you have?

- |                                |                               |
|--------------------------------|-------------------------------|
| <input type="checkbox"/> One   | <input type="checkbox"/> Two  |
| <input type="checkbox"/> Three | <input type="checkbox"/> Four |

3) Do you have a memory expansion?

- |  |                               |                               |
|--|-------------------------------|-------------------------------|
| <input type="checkbox"/> 0.5M                    | <input type="checkbox"/> 1.0M | <input type="checkbox"/> 1.5M |
| <input type="checkbox"/> 2.0M                    | <input type="checkbox"/> 4.0M | <input type="checkbox"/> 8.0M |
| <input type="checkbox"/> No expansion RAM fitted |                               |                               |

4) Approximately, how much do you intend to spend on hardware in the next 12 months:

- |                                     |                                     |                                     |
|-------------------------------------|-------------------------------------|-------------------------------------|
| <input type="checkbox"/> Under £100 | <input type="checkbox"/> £100-500   | <input type="checkbox"/> £501-1000  |
| <input type="checkbox"/> £1001-3000 | <input type="checkbox"/> £3001-5000 | <input type="checkbox"/> Over £5000 |

5) Which of the following do you have or intend to buy in the next 6-12 months:

	Own	Will buy
Monitor	<input type="checkbox"/>	<input type="checkbox"/>
Extra disk drive 5.25"	<input type="checkbox"/>	<input type="checkbox"/>
Extra disk drive 3.5"	<input type="checkbox"/>	<input type="checkbox"/>
Dot matrix printer (B/W)	<input type="checkbox"/>	<input type="checkbox"/>
Dot matrix printer (colour)	<input type="checkbox"/>	<input type="checkbox"/>
Other printer	<input type="checkbox"/>	<input type="checkbox"/>
Laser printer	<input type="checkbox"/>	<input type="checkbox"/>
Hard disk drive	<input type="checkbox"/>	<input type="checkbox"/>
Genlock system	<input type="checkbox"/>	<input type="checkbox"/>
Graphics tablet	<input type="checkbox"/>	<input type="checkbox"/>
Scanner	<input type="checkbox"/>	<input type="checkbox"/>
Sound digitiser	<input type="checkbox"/>	<input type="checkbox"/>



Video digitiser ☐ ☐  
 Bridgeboard ☐ ☐  
 Dumb Modem ☐ ☐  
 Intelligent modem ☐ ☐  
 Other (specify) ..... ☐ ☐

6) Where do you use your Amiga:  
☐ Home ☐ Work ☐ Both

7) What is the main use of your Amiga:  
☐ Leisure ☐ Business  
☐ Desktop Publishing ☐ Wordprocessing  
☐ Programming ☐ A mixture

8) Do you own or use any of the following computers:

	Own	Use
Acorn BBC/Archimedes	<input type="checkbox"/>	<input type="checkbox"/>
Atari ST/Mega ST	<input type="checkbox"/>	<input type="checkbox"/>
Amstrad/Schneider 464/6128	<input type="checkbox"/>	<input type="checkbox"/>
Amstrad/Sinclair Spectrum	<input type="checkbox"/>	<input type="checkbox"/>
Amstrad PCW	<input type="checkbox"/>	<input type="checkbox"/>
Commodore 64/128	<input type="checkbox"/>	<input type="checkbox"/>
Commodore C16 Plus/4	<input type="checkbox"/>	<input type="checkbox"/>
Dragon 32	<input type="checkbox"/>	<input type="checkbox"/>
IBM PC or clone	<input type="checkbox"/>	<input type="checkbox"/>
Other (state) .....	<input type="checkbox"/>	<input type="checkbox"/>

## Section III

### About your software

1) Using the scale, describe your level of interest in the following types of software:

	Low	High
Arcade games	.....	.....
Adventure games	.....	.....
Arcade-adventures	.....	.....
Art packages	.....	.....
Music packages	.....	.....
Educational packages	.....	.....
Desktop publishing	.....	.....
Word processing	.....	.....
Databases	.....	.....
Spreadsheets	.....	.....
Utilities	.....	.....
Communications	.....	.....
Other (state) .....	.....	.....

2) Do you consider the average price of Amiga software:  
☐ Too high ☐ About right ☐ Too low?

3) Approximately, how much do you intend to spend on software over the next year:  
☐ Under £50 ☐ £50-100 ☐ £150-200  
☐ £200-500 ☐ £500-1000 ☐ Over £1000

4) In general, do you consider the quality of Amiga software to be:  
☐ Excellent ☐ Good ☐ Poor

5) How much Public Domain (PD) software do you have:  
☐ None ☐ Some  
☐ A large amount  
☐ All of my software is PD

6) If you program the Amiga, which if the following languages do you use:

	A lot	Sometimes	Never	Make/version
BASIC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
C	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Assembler	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Modula II	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Pascal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Forth	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....

7) Has your Amiga ever been infected with a virus:

☐ SCA ☐ Byte Bandit ☐ Revenge  
☐ CCW ☐ Byte Warrior ☐ Other .....

☐ What is a virus?

## Section IV

### About Amiga User International Magazine

1) How long have you been reading AUI?  
☐ 1 month ☐ 3 months ☐ 6 months  
☐ 1 year ☐ Longer

2) Which of the following sections in AUI do you find least/most interesting or enjoyable. Please indicate on the scale.

	Least	Most
Constant Factors	.....	.....
Test Drive	.....	.....
Entertainment	.....	.....
Special features	.....	.....
Special offers	.....	.....
Mentor	.....	.....
User Port	.....	.....
Field Reports	.....	.....
Competitions	.....	.....
Other (state) .....	.....	.....

3) Overall, how do you feel about the complexity of articles in AUI. Certain subjects are pretty tough going by their very nature so please take this into account:  
☐ Too easy ☐ About right ☐ Too complex

4) Of the following features which would you like to see more/less of:

	Less	More
Practical programming	.....	.....
Theoretical programming	.....	.....
Electronics/Interfacing	.....	.....
Computer news	.....	.....
Communications	.....	.....
Other (state) .....	.....	.....

5) How do you usually get your copy of AUI:

☐ From a friend ☐ Subscribe. How long? .....

☐ News stand ☐ Newsagency

☐ Computer store ☐ Other (specify) .....

6) Have you ever experienced difficulty obtaining a copy:  
☐ Never ☐ Sometimes ☐ Often

7) How many other people read your copy of AUI:  
☐ 1 ☐ 2 ☐ 3  
☐ 4 ☐ 5 ☐ More than 5

8) How long do you keep your back issues?  
☐ 1 month ☐ 2 months ☐ 6 months  
☐ Until they're falling apart

## Section V

### Other Magazines

Of the following, which if any, do you read, buy or subscribe to:

	Read	Buy	Subscribe
Amiga Computing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CCI	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Transactor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jumpdisk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Popular Computing Weekly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Personal Computer World	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The One	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ST/Amiga Format	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Byte	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (state) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If you consider AUI lags behind any of these in any key area, now's your chance. Use the space below to sound off any little niggles you may still have — we aim to stay on top.

If my name is drawn my preferences for the prize are:

1) .....  
 2) .....  
 3) .....  
 4) .....

There now, that didn't hurt did it. If you'd like to add any further comments then please attach a separate sheet. Thanks for your help and the best of luck with the draw. Photocopies of the survey can be accepted but the draw is limited to one prize per household.

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- 1** *Who begins a series of articles concerning Desktop Publishing elsewhere in this issue?*
- 2** *Which programming team have just followed up the success of Xeron with the future sport Speedball?*
- 3** *A Norwegian wrote to tell us of his Amiga-based city guide. In which city has it been installed?*
- 4** *Name the type of car that races in the Turbo Cup?*





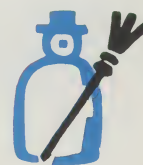
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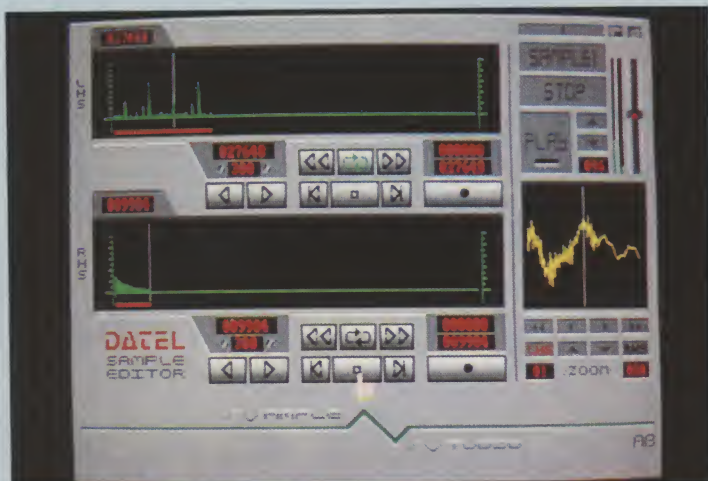
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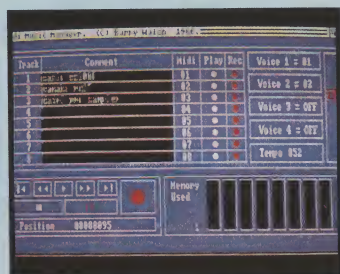
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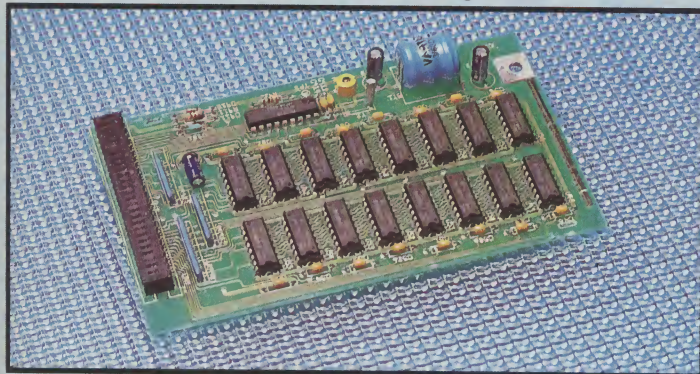


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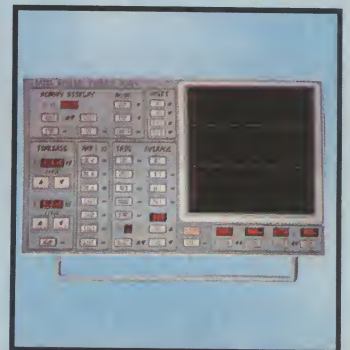
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# AMIGA DESKTOP PUBLISHING

***John Walker our resident expert and a noted author on this increasingly important subject, begins a series on the growing dimension of DTP and its relevance to Amiga users***

**D**ouglas Adams does it with a friend. TV producer Bernard Clark does it to impress. Dr David Thornburg does it in the privacy of his home. And I've just managed to do it on the top of my desk.

It's DTP, of course — short for desktop publishing, which is short for designing, typesetting and printing your own publication with the aid of a microcomputer.

The Amiga could have been made for desktop publishing. It's affordable and great on graphics, which is more than you say about the two dominant DTP machines: the Macintosh, which is vastly overpriced in Britain, and the clumsy IBM PC, which needs stuffing with extra boards in order to achieve speedy, high quality graphics.

It's taken a long time for programmers and hardware developers to appreciate the Amiga's possibilities. But the dribble of DTP software is beginning to become a flood and it's backed up by some excellent graphics programs and inexpensive digitisers.

Commodore, too, is beginning to concentrate on the Amiga's DTP potential. The 1.3 Workbench, which should be available very soon, will include three fonts designed to work with Post Script-compatible laser printers.

We're still waiting for Commodore's own, long-promised laser printer. And we still lack a selection of scanners

and OCR's (Optical Character Readers) and drawing programs that use structured, rather than bitmapped, graphics. But they, too, will come — and sooner, rather than later. Already desktop publishing packages aimed at big businesses are being built around the Amiga 2000. But individuals with A500s shouldn't feel left out. They can assemble their own systems, bit by bit, from what is available.

To DTP or not to DTP? That is the question facing any Amigan who already uses a word processor. Is it worth going that little bit farther to produce more professional-looking documents? After all, you can set type in columns using Amiga WordPerfect. You can use different fonts and add graphics to documents using such word processors as Vizawrite Desktop, ProWrite, Kind Words and Excellence! So why wrestle with the complexities of desktop publishing?

The answer is that you can achieve better results using DTP software. You can re-size graphics easily and redesign the appearance of your document with a few deft moves of the mouse.

The list of potential desktop publishers is almost endless. Vicars with parish magazines; community or charity groups with events to publicise; producers of fanzines, whether for the latest rock sensation or a football team; newsletter writers; poets; plumbers or

others with services to sell. DTP has something to offer them all.

It has taken time for people to realise the advantages. Two years ago, when I was trying to interest publishers in a book on the subject, most had no idea of what I was talking about. Now many of them are installing systems complete with laser printers. Indeed, it is another new technology that is being hijacked by the big corporations, just as monks once cornered the monopoly to produce books in those long-gone days of handwritten manuscripts. Johann Gutenberg changed all that in the 1450s by inventing moveable type, which made it possible to print any number of identical copies of the same book. Mass production took over from individual effort. Machines printing put up a barrier — a technology gap — between the creators of the written word and its final appearance on the page. Desktop publishing leaps that barrier, and fills the gap. Now writers can become their own publishers. Perhaps more importantly, would-be writers need wait no longer to get into print. There are many with something to say who have never found a publisher willing to take the risk on their books for commercial reasons.

***"You can expect to see an explosion of desktop-published newsletters, of small publishers and private presses in the next few years."***

A pointer to the future is the Self-Publisher Association, set up by former literary agent and publisher Tony Ilarold to help people become published authors. It's the sort of project that only DTP has made possible.

DTP is ideal for the individual. You



can expect to see an explosion of desktop-published newsletters, of small publishers and private presses in the next few years. DTP is also too important to be left to hi-tech junkies or big corporations. Cambridge University Press is trying DTP as means of producing specialised books. Robert Maxwell, big boss of leading DTP software house Mirrorsoft (who may yet produce an Amiga package) installed a system to produce in-house documentation and small circulation journals at Pergamon Press.

What is important is that DTP is affordable by individuals. As authors grow concerned about unsympathetic corporations acquiring copyright to their work in the latest mage-takeover deal, so more will turn to self publishing.

Bernard Clark, a former BBC man who now runs his own production company, is halfway along that route. He printed his 700-page novel so that it would look good when it was sent to potential publishers.

Dr Thornburg, an American writer of 12 conventionally published books, set up Starsong Publications and used DTP methods to bring out his two most recent titles, *Unlocking Personal Creativity* and *The Empowered teacher*. He sells them by direct mail. One of the most wonderful benefits, he says, is that it is true freedom of the press, free from the restrictions of big publishers.

Adams and friend typeset his last novel *Dirk Gently's Holistic Detective Agency* to control its appearance on the page and to cut the production process by five weeks.

I've done it because I wanted to exercise total control — from writing to selling — over the books I write.

Eighteenth months ago, it cost me £1,400 to begin — on a 512K Amiga 1000, Scribble! and Gold Disk's Page-Setter and LaserScript. With that I was able to write and produce a 160-page book, including the diagrams and illustrations.

Today, I could buy virtually the same equipment and identical software for half that amount — although now I use WordPerfect and Gold Disk's Professional Page as my DTP software. And my A1000 has now 2.5 megabytes of RAM.

Around £300 million will be spent on desktop publishing in Britain this year. Without doubt, its stamping its own imprint on the face of publishing. Gutenberg would have approved.

## Typesetting, design, printing

Desktop Publishing can be divided into three main activities — once you have the words to publish, that is!

They are:

- ☛ typesetting
- ☛ design
- ☛ printing

How you deal with these will depend upon your approach to typesetting, which is the single most important aspect. The bright new dawn of DTP is due to the ability of microcomputers to set type to standards that not so long ago could only have been reached by equipment that would have cost tens of thousands of pounds.

Typesetting can be done in three ways. The first is to use a page-oriented software package such as Publisher Plus, City Desk, PageSetter or Professional Page. With this method typesetting and design can be carried out simultaneously. Changes to a design and the appearance of type on the page can also be altered at the click of a mouse-button. It is this flexibility that has put DTP software up there with the long-established big three applications — with word-processing, databases and spreadsheets.

The second approach to typesetting is to use embedded codes within a text file prepared with a word-processor. These codes usually take the form of a backslash followed by letters: "/i" for example could set the words following it in italic. It is the method used by some word processors which separate the editing and formatting of text.

Once the codes are entered, the text is then sent to a printer who returns it to you either in the form of finished pages, or as *galley*s — long pieces of paper containing the text set into columns of the size you specified. Then you cut the galley into lengths and paste them on to your layout page. The result is a professionally printed document.

The advantage of this approach is that you don't have to bother with the details of typesetting. You need not worry about such essentials as hyphenation (the breaking of long words over two lines) or the spacing of letters.

The embedded code approach is also used by TEX, a typesetting program developed by Professor Donald Knuth, who created it in order to set more easily complex mathematical and scientific texts with a computer.

TEX itself was placed in the public domain. Various companies have developed commercial versions for use with different microcomputers. An Amiga version has been developed by Tomas Rokicki. Packaged on eight disks, it is available in the States and, provided that you've an Amiga with at least 768K of memory, it will handle larger documents than most main-frame versions. But no one seems to

have brought it into Britain. Judging by the demo version put into the public domain and included on Fish Disk 83, it works as well as any other TEX, which is very well indeed for those who know what they're doing.

If you don't have a knowledge of type and typesetting, though, then you're likely to find that TEX is tough. And, like other systems using embedded codes, TEX can't handle graphics apart from drawing a few boxes. You have to deal with illustrations separately.

Also available in the public domain is Fish Disk 135 which contains 78 fonts of various sizes for use with TEX (although they can also be used like any other Amiga fonts).

A TEX file containing embedded commands can be output through many suitable printers, from typesetting machines to dot matrix printers. The result will, of course, depend upon the quality of your printer. But you can get good results when using a dot matrix.

The same cut and paste approach can be used, of course, with any word processor, including the Amiga's Notebook or the Emacs text editor which can be found on the Extras disk supplied with the computer. You simply create your document using the word processor and then print it in a narrow setting, just like the galley used in conventional magazine publishing. Once you've got the galley, you cut the copy in lengths and paste it down on the page.

***"You can get better results by using one of the collections of extra fonts that are available."***

For an A4 page containing two columns of text you would need to set your margins to give your text of about 6.5 cms a column. When stuck down on the page you should leave a gap (known as a gutter) of around 0.5 cms between the columns.

If you prefer a three column layout then your text should be set in columns around 4 or 5 cms wide, with a gutter of about 0.5 cms between each of the columns.

You can leave spaces to paste in illustrations. Headlines can either be hand-lettered, formed using rubdown lettering such as it produced by Letra-set, or printed on a dot-matrix printer and then cut out and stuck into place. To do this you can use the dot-matrix's expanded fonts — if your model has them. Or, with a word-processor such as ProWrite you can use the Amiga's own bit-mapped



## AMIGA DESKTOP PUBLISHING

fonts. They, though are on the small side.

You can get better results by using one of the collections of extra fonts that are available. These include the three volumes of Zuma fonts, which provide various sizes of serif, sans serif and script-like fonts in low, medium and high resolutions. Cheaper, but not providing such large sizes are the collections of EarthBound fonts, which consist of Amiga versions of different typefaces put in the public domain for the Macintosh.

Some public domain fonts are available for the Amiga and can be found on Fred Fish's comprehensive collection that is available from many sources. Fish Disk 34 contains a set of 28 fonts, mostly small in size.

***"If you're producing a newsletter-style document or fanzine, you will have had to work out the length of each separate story in advance."***

With a paint program such as De Luxe Paint, you can make any font larger or even draw your own. An alternative method is to use a video titling program, such as TV Text or Video Titler, which allows you to save screens in IFF format. Also available is Calligrapher, a program for designing your own fonts in colour, too. This process of paste-ups is the way most magazines are still produced — and the method that most desktop publishing software imitates. Depending upon the number of copies you need of your masterpiece, you can either make photocopies of it or use it as *camera ready* pages which can be photographed and printed in the conventional way.

Photocopying is cheaper if you're having less than 100 copies made. Above that number, conventional printing is the best bet. In both you get

a higher quality result by reducing the size of the original. The print will look denser and less spotty. That is something that you'll need to have taken into account when producing your original paste-up. Otherwise, on your reduced copies, the print may be too small to be easily readable.

A reduction of between 20-25 per cent in size when a photographic copy of your original is made will greatly improve its sharpness. A reasonable size to set the type so that it can be read without strain is 10 point. To achieve that with reduction you'll need set the words in 12 or 13 point type. In the process, an A4 page (210 x 297 mm) will come down in size to around that of an A5 (148 x 210 mm).

If you're relying on the built-in fonts of a dot matrix printer for the main, or body, text of your publication it's therefore best to reduce Prestige,

which has 10 characters to an inch, rather than the smaller Elite, which has 12 characters to an inch. If you're using the Amiga's own fonts then printing with Diamond instead of Topaz would be sensible.

The drawback with this approach is that you need to design your publication in advance, before the type is set. If you're producing a newsletter-style document or fanzine, you will have had to work out the length of each separate story in advance and have allowed for illustrations.

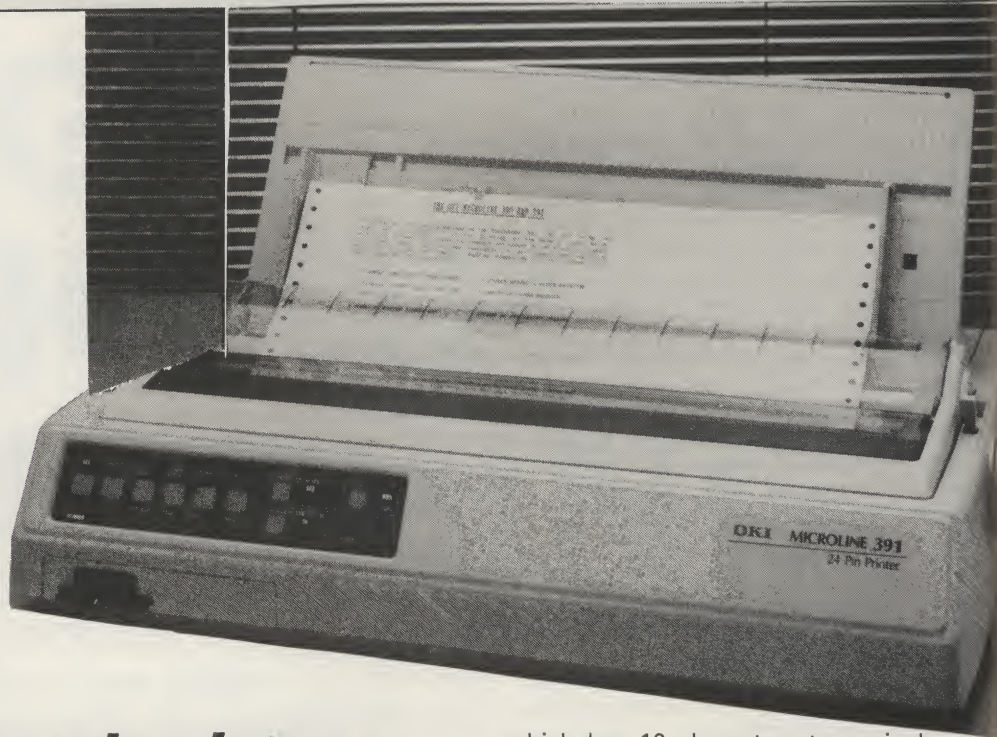
With page-orientated software, the task becomes much easier. If articles are too long you can cut them on the page. If they're still too long you can instantly alter the setting — using a smaller type size or putting less space between lines. In the same way, if the words fall short of the space allowed for them, you can instantly re-set the article in a larger type-size or increase the spacing between the lines.

In short, you can experiment and rejig as long as necessary. Graphics can be re-sized immediately, which is something not possible with any other approach.

All the time what you see on the screen is what you will get when you print it. This WYSIWIG approach is much easier for DTP beginners. And experts, too, can change their minds at the last minute without incurring any extra overheads. With conventional paste-up methods you would be back at the beginning. DTP is not only DIY, but the nearest thing so far to instant publishing. The deed and the word have become one.

J.W.

**Next month, John Walker explains DTP design.**





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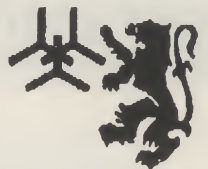
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A review in the June '88 AUI concluded: "The hardware is well built, it has excellent software and is well documented."

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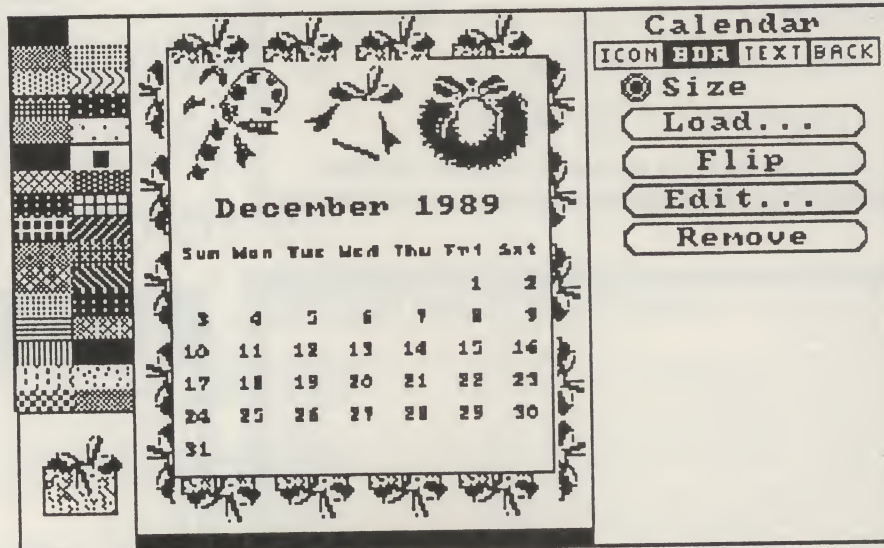
**Posters, letterheads, calenders,  
greeting cards, even banners, you  
name it and John Walker says  
DPII will print it.**

**S**OFTWARE that promises to release your creativity is all very well. But what happens when you have doubts about how creative you are? If you want to design some fancy labels, create a clever letterhead for your stationery or some snazzy signs, but don't feel up to the task?

The answer may be to use Electronic Arts' Deluxe Print II, which is designed to take the sweat out just such design problems by providing the user with ready made solutions. It still requires input, of course. But much of the hard work has already been done for you.

Deluxe Print II makes it easy to design posters, labels and business cards, banners, letterheads, calendars and greetings cards. All but the labels can have borders of various designs around them. For text you can use the Amiga's fonts or the four large fonts supplied. The program also comes with some ready drawn art that can be used as backgrounds to the text or as small illustrations.

It is compatible with IFF graphics produced by Amiga paint programs, providing that they are not in HAM (Hold and Modify mode). The maximum number of colours you can use is 32, a considerable improvement over the eight available in its predecessor, Deluxe Print, which was the first printing program to become available for the Amiga around two years ago. That was a rather limited and — at around £90 — considerably overpriced program, although it can now but bought for



around £20. Deluxe Print II follows the same style, but is far more flexible and comes with a much improved user interface.

Deluxe Print II will work on any Amiga with 512K of RAM, although its possible, with fancy designs using several fonts, to run quickly into memory problems. You will probably need 1 Mbyte of RAM to create anything that uses more than one font.

The program, of course, is of no use unless you have a printer. It will work in colour or black and white with any Preferences printers — though, to my surprise, it has the 1.2 printer drivers rather than the improved 1.3 versions that have been supplied with many printing or publishing programs in recent months.

The program comes on two unprotected disks — congratulations on EA on abandoning its copy protection that sometimes made using its programs a pain — together with a bulky 98-page, indexed manual that most users will rarely need to refer to.

The screen display provides you with a palette of 32 colours down the left hand side of the screen and a menu of options down the right hand side. You switch between four main menus, one for each of the elements used in a design: small graphics, background graphics, text and borders.

In the centre is a blank page on which you will create your design — its size and shape will depend on whether you wish to make a Sign (or poster), a Label, a Letterhead, a



Calendar, a Greeting Card or a sign made up of four panels. All these formats, apart from the label, can be framed by a border. You have a choice of 36 border designs to choose from. You can also design your own, or use any part of a graphic to form a border.

A design has two major elements — the background and the foreground. The background can be left plain or coloured. Or you can import any picture from a paint program or type some words. Selecting a colour is done by simply clicking on the one you want from the palette.

The background graphic cannot be redrawn within the program, although you can make some alterations to it that will change its appearance. If the picture is larger than the format you can move around, which enables you to crop it to your liking, you can resize it, flip it horizontally and vertically, and you can cut a portion of it, which will then be resized to fill the background space. You can also change its colours.

***“Graphics imported from other paint programs are shrunk to fit the design format you are working on, which can distort them in the process.”***

Graphics imported from other paint programs are shrunk to fit the design format you are working on, which can distort them in the process. In order to ensure a perfect fit for full-size graphics you need to save your image as a brush of 132 × 156 pixels, which can be a minor irritation.

Apart from full-sized background pictures, Deluxe Print II uses smaller illustrations which it somewhat confusingly refers to as icons. These have nothing to do with the icons of the Amiga's Workbench and Intuition interface. They are simply images that are 44 by 52 pixels in size. You can automatically make an icon from a full size picture.

The program's Art disk contains a selection of icons covering everything from religious images to holidays and animals. It would have been helpful had the manual

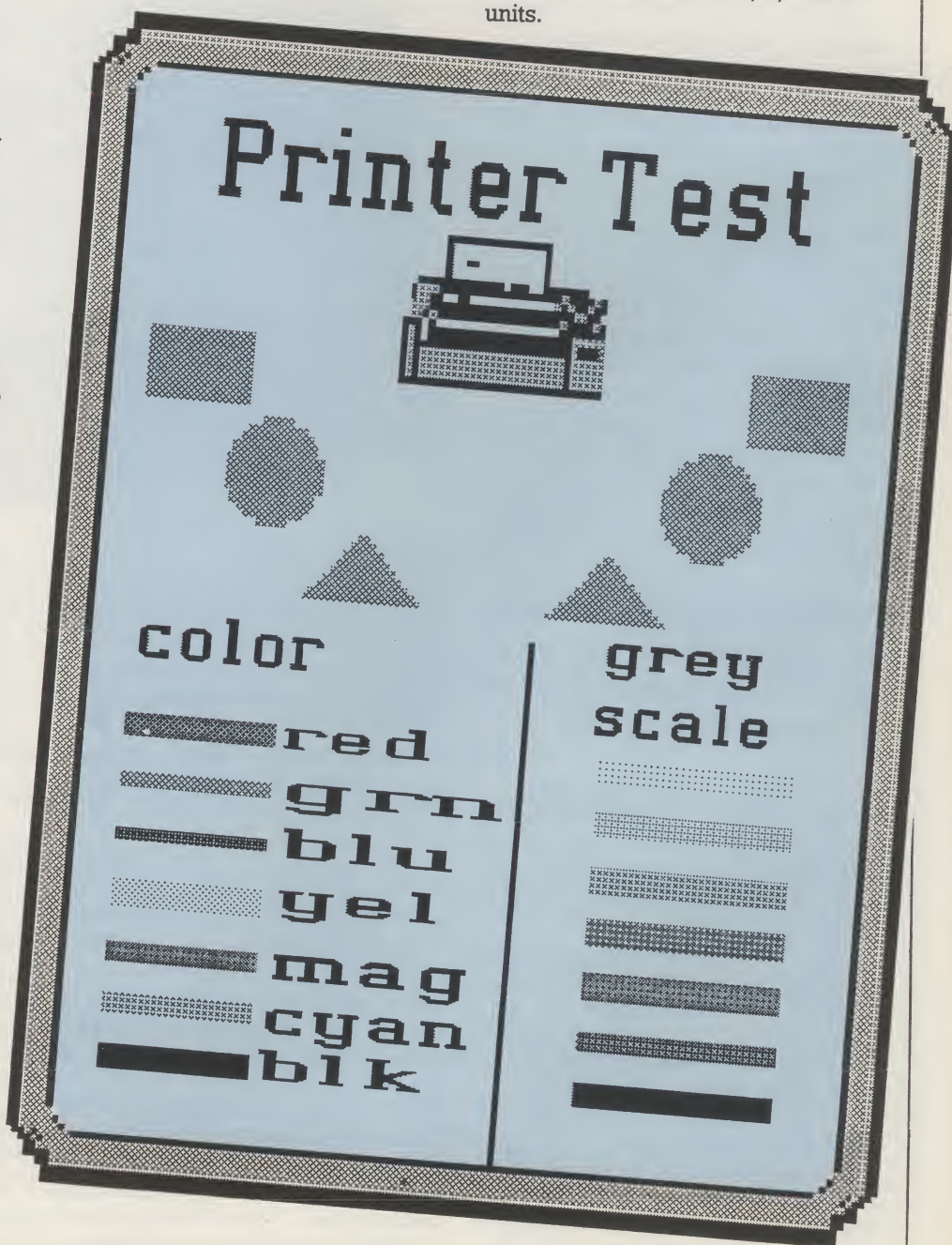
included a reference section to this art, but it does not take long to familiarise yourself with the available images.

Icons can be moved around the design, flipped horizontally and vertically or placed on a fixed grid — you can arrange three icons on a label's grid or nine on a sign, calendar or greeting card. Once you have loaded an icon it's stored in an image bank, which can be instantly recalled. The bank holds up to nine icons, the maximum number that you can use in any one design.

Icons can also be edited within the program. There are some limited drawing tools that allow you to draw

freehand, or produce lines, filled and hollow rectangles, and filled or hollow ellipses. You can also fill shapes and cut and paste parts of the design. If you want, of course, you can use these tools to draw your own icons.

Text can be added up to a limit of 81 characters, which should keep your messages terse. You can use any Amiga bitmapped fonts in plain, italic, bold, underlined or shadowed styles. You can create shadows for your text in four different ways and in any of the 32 colours. You can also automatically add a coloured box and background to the text. The horizontal spacing between the letters can be fixed at 1, 2, 4 or 8 units.



cont. on next page



continued from page 97

## DELUXE PRINT II

Deluxe Print II has four special display fonts with the odd names of Carmella, Iva, Deborah and Patricia. These, and other, fonts can be resized on the page. Indeed, in order to improve printing quality, the manual suggests choosing a larger size font than you want and reducing it in order to get rid of any jaggedness.

Colours in the palette of 32 can be altered to suit your own needs, although eight are used for the supplied icons and any changes to them will not survive when you begin a new design or summon up a different format.

The available formats should meet many users' needs. They are based on a standard 8.5 x 11 inch page, which is used for signs or posters — although all sizes can be reduced when you actually print your design. Banners print sideways over two pages and are 22 inches long, letterheads use the top third of a page, and greetings cards divide it into four panels, with two panels printing upside down so that when it is folded all the printed sides face the right way.

***"You can use any Amiga bitmapped fonts in plain, italic, bold, underlined or shadowed styles."***

You can also use a four panel design similar to the greeting card except that all the panels are printed the same way up. Labels, which will fit on to an Amiga disk, are 4.25 by 1.875 inches in size.

Calendars are the most automated of design choices. Each month is printed on a standard page and you simply click on the month and year you require and it appears on the page. You can put a background picture behind the calendars or add icons and a border to it.

One final option the program offers is a Preview screen, which shows your final design in the resolution of your printer — a What You See Is

What You Get look so that you can make any necessary changes before printing. Sometimes what you see as you scroll around the preview screen may not be the same as your design, especially if it is a complex one. The reason will be that you've not got enough memory to print everything you designed. If you don't see it on the preview screen, you won't get it on the print out. The print menu allows you to set the size, width, height and left margin of your paper, although these cannot exceed the dimensions your printer supports.

The final appearance will, of course, depend upon the quality of your printer. The program works best in colour. Then the jaggedness of the text and the often blocky nature of the graphics is lost in the dazzle of the colours. But colour printers, apart from some expensive inkjet machines, often produce lack lustre results.

Deluxe Print II can be a useful

program. You could no doubt achieve as good, or better, results by using Deluxe Paint II or one of the other excellent paint programs now available for the Amiga. Deluxe Print II makes it easier and quicker, since it provides a reasonable variety of clip art, some attractive borders and a variety of tools to fine tune the results.

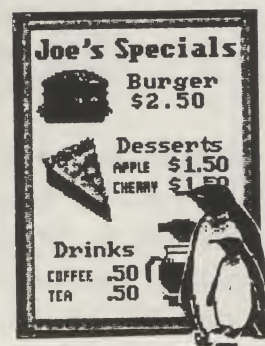
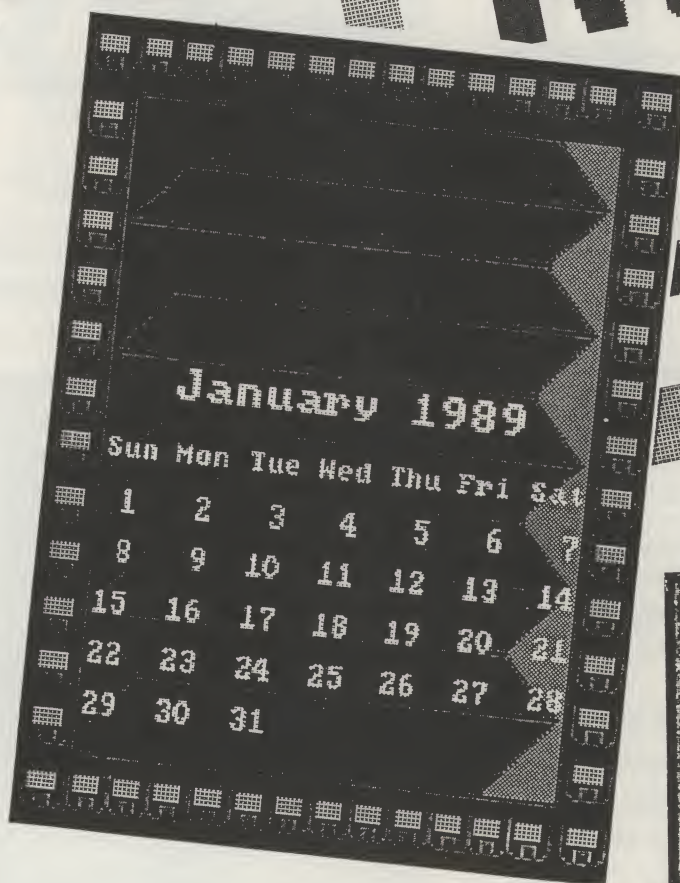
Its limitations are that it restricts you to a few fixed formats, requires graphics of a fixed size for best results and relies on the Amiga's printer drivers for its final result. It has made an attempt to overcome the inadequacies of the Amiga fonts by adding a few of its own, although they are not notably attractive. If you are a novice requiring a simple and efficient design tool or someone who needs quick results, then Deluxe Print II is well worth investigating.

J.W.

Price: £49.95

Carmella  
Iva

Patricia  
Deborah





# The word is PROTEXT...

## At Last! Announcing PROTEXT - the best Amiga word processor

PROTEXT is very fast! Unlike the majority of Amiga word processors PROTEXT scrolls very quickly and redraws the screen in next to no time. We have achieved this by developing our own screen handling routines - much faster than the standard ones (this is one reason why it has taken so long to finish).

PROTEXT uses the Amiga 'WIMP' interface fully and supports pull down menus, use of the mouse for cursor movement and block copying and window resizing. PROTEXT makes full use of Amiga Preferences settings and is fully compatible with the Amiga's multi-tasking operating system.

Protext is the result of 4 years of development. Unlike the majority of competitive programs Protext is 100% British and is being developed further all the time in response to the needs of British users. Registered users are always informed when upgrades are available.

Just as a taste of what reviewers are going to say about Protext, *Amigacomputing* described Protext as:

*"the best word processor for the Amiga"*

and they were only looking at a pre-release version.

### A brief summary of some of Protext's features ...

Background printing edit/create further files while printer is busy  
Box manipulation move, copy, or delete any box as well as blocks  
Configuration set over 50 options to your own preferences using our menu driven configuration program  
Dictionaries add/delete words to/from supplied 70000 word dictionary. Create your own personal dictionaries.  
Disc utilities copy files, erase, rename, type, create directory, change directory, remove directory, catalogue files  
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Find & replace very powerful and fast with many options.  
Foreign languages 10 built in keyboard languages. Easy to use accented letters: ä æ ç ö ü è é ß à ù ô õ ñ etc.  
Formatting auto-reformat, or reformat para, block or whole text.  
Headers & footers up to 9 lines of text, different even/odd headers and footers, auto page numbering, footnotes.  
Help edit and command help available on-screen  
Keyboard macros string any sequence of letters together on a single key e.g. "Yours sincerely". Load and save macro key files. Special recording mode as you type.  
Line drawing ideal for drawing lines (incl. corners) around text  
Line spacing variable in half lines, including 0, 1/2, 1, 1 1/2, 2, 2 1/2, 3  
Printer support works with any parallel or serial printer. Wide range of printer drivers supplied, incl. lasers and 24-pin printers; or create your own drivers or edit ours.  
Printing styles bold, condensed, double strike, elite, italics, enlarged, pica, NLQ, subscript, superscript, microspacing, proportional spacing, any other printer fonts

Program mode program editing mode suppresses formatting. Programmable tab stops and auto-indent available.  
Proportional text will print proportionally spaced, right justified text  
Quick dictionary dictionary held in memory is very fast  
Ruler lines any number of ruler lines to define document layout, left/right margins and normal/decimal tab stops  
Spelling checker check from disc or current text, as you type or afterwards. Suggests alternative spellings. Works with foreign languages  
Symbols full character set available on screen. Character symbols may be redefined  
Time and date time shown on screen. Use date within document  
Tutorial files help you to start using Protext  
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Undelete retrieve text deleted in error  
Word count quick count at any time, whole text or just a block  
Word puzzles anagram and crossword solving features  
Wysiwyg on-screen bold, underline, italics

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\* numeric calculations and string expressions including substrings  
\* commands to write information to a separate file  
\* operators +, -, \*, /, <, >, <=, >=, =, <>, !N, !NOTIN

### Protext is a professional word processor

If you want a fast efficient program for processing words, get PROTEXT

#### Some quotes from reviews of other versions:

"Protext is probably the most powerful word processor on the Atari ST" ST USER

"Protext deserves to be the system by which all other word processors are judged ... Amnor has given the market a superb product" YOUR COMPUTER

"Amnor's Protext 4 is just about unbeatable ... this really is an excellent program" PC AMSTRAD

#### Prices

	IBM PC	Atari ST	Amiga
Protext v4.0	£99.95	£79.95 *	£99.95
Protext Filer	£24.95	£24.95	£24.95
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# HEARD IT ON THE GRAPEVINE

**E**nd of year goodies are pouring out of the software houses. The software developers are really getting down to it — and over the coming months we'll be seeing some, very impressive stuff, first on the list Electronic Arts **CHESSE POWERDROME**.

If you want a break from zapping aliens and slaughtering sprites then how about a pleasant game of solitaire? Spectrum Holobyte are releasing **SOLITAIRE ROYALE**, a collection of 8 solo card games for players of all ages — among the collection are such old favourites as Canfield, Klondike, Reno and three childrens games, Concentration, Pairs and The Wish. It reminds me of my days spent at the back of Ricks' Bar lost in the smoky haze. A husky-voiced singer crooning "As time goes by" as I idly flipped cards over . . . if I could only give my Amiga a husky voice!

And now for something completely different. **CENTREFOLD SQUARES** is strip poker for all you redbloods who can't play cards. The object of the game is the same in that the aim is to divest a young lady of all her clobber (well several young ladies actually). . . Sorry girls but there are no fellas! The game is based around Reversi and sports adequate, but not outstanding, graphics.

Now back to the Zip! Zap! Pow! and first we have a little asteroids clone called **CUBEMASTER** in which you play an astronaut flying around shooting up cubes and other such harmful meanies.

This is what is termed in the trade as a "cute" game with lots of jolly sounds like Boing! Ouch! and similar. It is also very playable.

MicroIllusions new offering is **TRACERS** which will be familiar to Tron addicts as it is based around the light cycle sequence from that film. As usual, in the MicroIllusions norm, your choice of opponent will consist of you V computer two humans V computer or human against human, guaranteed to lose friends! Plenty of other choices too, with keyboard, mouse or joystick options. One thing MicroIllusions can't be faulted for and that's giving us a lot of options.

Here's one for all you budding architects out there — it's called **MICROPOLIS** from Maxis and puts you in the position of a town planner. You will get the chance to plan and build your own city and, if done carefully, it will prosper and grow thus

making you rich and famous (probably).

Remember old Leisure Suit Larry (hands up those who ARE Leisure Suit Larry!) Well Sierra On-Line are bringing him back in Leisure Suit Larry 2: "Looking For Love In Several Wrong Places". Sierra promise that Larry 2 will be as humorous as their previous effort so it should be worth waiting for.

Omnitrend have announced **PALADIN** a new fantasy role playing adventure in which you play a paladin (surprise, surprise) in charge of a small party of characters on a number of quests of the "easy" to "hard" kind — which usually means impossible to the likes of me! Included in Paladin is a quest builder to allow you to design adventures to your hearts content (even modify old ones!). Sounds like value for money, anyway.

**SUPERSTAR ICE HOCKEY** is the latest offering from Mindscape and this has you coaching and playing an ice hockey team — action and realistic game play is strongly featured here with outstanding animation and graphics. This is definitely one for those of you who need something more challenging than a skateboard!

Further from Readysoft, after Dragon's Lair will be coming such delightful epics as **SCARY MUTANT SPACE MONSTERS FROM MARS** (Where else?), **COSMIC BOUNCER** and **ROCK CHALLENGE**. Watch this space for More news of these items.

Other late news of another software house, MicroIllusions, is that they have acquired the rights to **THE FLINTSTONES**, **THE JETSONS**, **SCOOPY-DO** and **JOHNNY QUEST** so expect to see these in the near future.

Last, but not least, Rainbird have produced the **UNIVERSAL MILITARY SIMULATOR** which recreates five historical battles Arbella, Marston Moor, Gettysburg, Waterloo and Hastings, this will allow the historians among us to do what they've always wanted, change history! Scenes are shown on a 3D grid so allowing you to zoom at any angle to view your armies dispositions (and that doesn't mean the way they sit!). All the scenarios are based on the facts surrounding the actual battles but it will be possible to change the parameters and enter "what if. . ." situations. Sounds like jolly good fun — slaughter whole armies from the comfort of your own home, send your men to their doom like a good general and then eat a hearty breakfast!



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# JOAN OF ARC

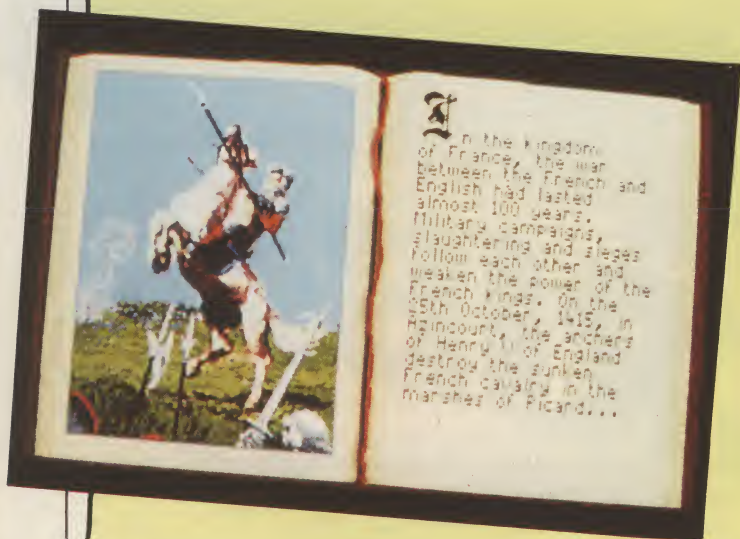
**M**ay 1429: the French have been under the thumb of the English aggressors for too long. The time has come for a change. Charles, the heir to the throne has decided to rid France of this infestation with the help of Joan of Arc.

After some introductory screens, a map of France appears, indicating the whereabouts of the various forces, very similar to the map of England used in *Defender of the Crown*. Your initial goal is to capture Orleans where you will be crowned. Once on the throne you can start putting your weight about. You will need to round up an army of your own, but troops cost money. Consulting the map tells you which of your territories will put up least opposition to a tax. Decide who the unfortunate lot will be and watch the cash come flooding in, giving you the necessary finances for your army.

Now you can get on with the liberating of English-ruled provinces. As you move your men around the country you frequently come across enemy armies. You control the battle from a point high above the field, commanding your groups of ant-like soldiers with icons at the bottom of the screen. It looks a bit weedy but is far more realistic than the equivalent scene from *Defender*.

**"If you succeed in capturing a leader the best idea is to have him beheaded (it keeps them out of mischief)."**

Sieging of castles takes place over two arcade sequences. The first has you breaking through the enemy defences on the drawbridge, engaging soldiers in brief sword fights against a digitised backdrop. Guards await you on the castle battle-





ments in the second section, dropping rocks and pouring oil over unfortunate attackers. If you succeed in capturing a leader the best idea is to have him beheaded (it keeps them out of mischief).

Another of the mini-games that crops up is a duel on horseback with a rival knight. The relevance of this is not at all clear, and is totally ignored in the instructions. You also get the chance to defend your own fortress in a similar game to the castle siege, but this time you are the one lobbing the rocks and boiling oil.



enjoyed them all. Joan of Arc cannot boast the same level of graphics or sound, and despite attempts to develop the gameplay (diplomacy, royal justice, etc), it is no better in this area, in fact it comes out worse for all the waiting around. Even so, the traditional war-gaming theme works well, and the action sequences do boost the interest level. For those aching for a medieval setting in which to stomp around in armour with swords whistling around may find this worth a look.

T.H.

The degree of strategy in Joan of Arc is slim due to the frequency of the arcade games. These are all rather weak, without properly developed control methods and mediocre graphics. It could all have been a lot more user-friendly. The most annoying aspect of the player interface was the absence of an "undo" command. Mistakes are easily made in the menu screens, and accidentally choosing the wrong option can waste time and mess up your plans, when all that is needed is a click of the right mouse button for example, which could return you to the main screen. Disk access is another major problem. Almost every move you make is followed by often lengthy disk loads that slow the game right down. There is a save game option included.

Sampled sound effects help the arcade games along. Unfortunately you will be reaching for the volume knob before long as the same short tune is played over and over again.

A criticism often leveled at Defender of the Crown was that it did not have the gameplay to match its sounds and graphics. I agree with that to a certain extent but I have had many engrossing sessions of crown defending and thoroughly



Graphics: 7  
Sound: 6  
Playability: 6  
Value: 5  
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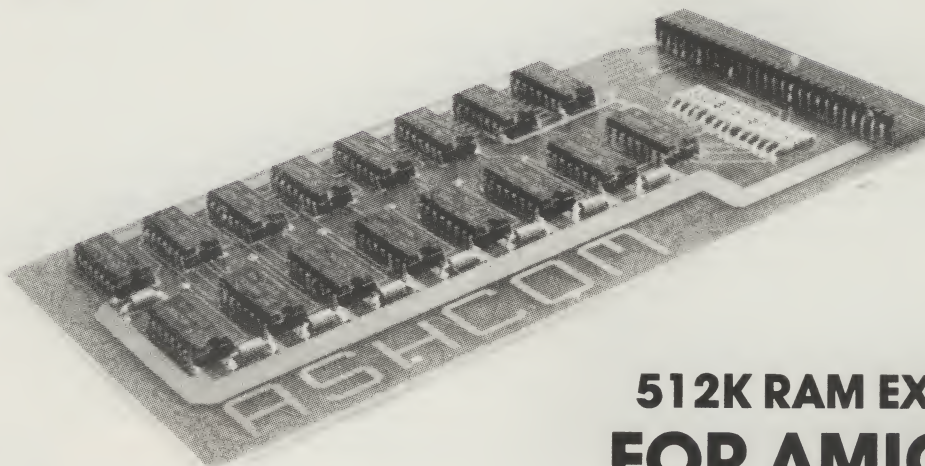
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# MANHATTAN DEALERS

Silmarils

**M**any of the most popular games in the arcades at the moment are based around the progressive beat 'em up theme; Double Dragon, Dragon Ninja and Altered Beast for example. Manhattan Dealers takes that same idea and puts you in the steel toe-capped boots of a tough cop with a mission to take out a number of drugs rings. No chance of a helping hand here though, in this one you are out there on the street alone.

Manhattan has been reproduced in nine screens that flip instead of scrolling. Played on the first of the five skill levels, only one enemy attacks at any time. A traditional spiky-haired punk accosts you at the start of the game. His initially half-hearted attacks with a chain are easily thwarted with a few kicks to the head. Deck him enough times and he gives up his bag of caffeine (the drugs start off mild on the early levels). Once you have the drugs you can burn them in an oil-drum at the opposite end of town, topping up your strength at the same time.

*"On the streets, a makeshift basketball court is the battle ground of a leotard-clad athlete who gives you yet more abuse."*

A staircase leads down from the start screen into a basement workshop where a mad Texan wielding a chainsaw attempts to slice you into mince meat. As before, he is nothing a good kicking can't sort out. Back on the streets, a makeshift basketball court is the battle ground of a leotard-clad athlete who gives you yet more abuse. Every beat 'em up has to have its bad girls, and these can be found out on the jetty (or as Otis Redding would have said 'On the dock of the bay'). You could just beat them until they drop but a quicker solution is to force them onto the edge of the jetty and knock them into the water.

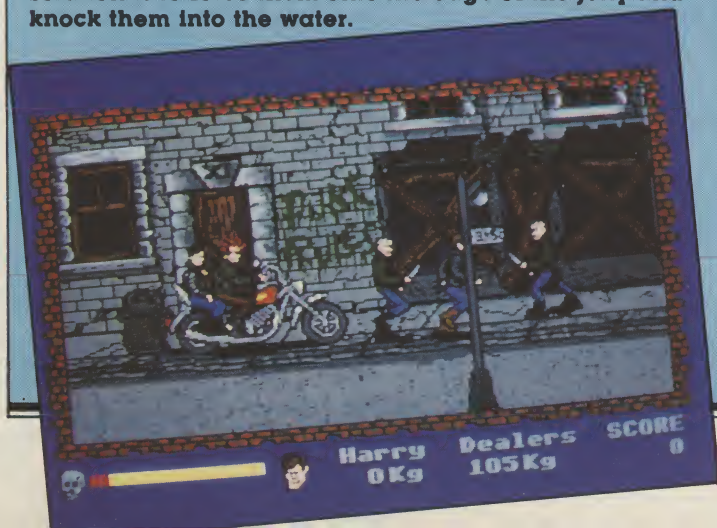


Inspector (Dirty?) Harry gets a chance to try out his martial arts skills on some masters of the art in Chinatown. A couple of ninjas and the odd samurai occupy this small but detailed corner of town.

Manhattan Dealers has obviously had a lot of thought put into its design but it is let down by the low standard of programming. The inlay claims the game "fully uses the Amiga's capability", though just which capability to which this refers to I am not sure. The lack of scrolling, jerky sprites and sluggish joystick response put it way behind the current standards. Then there is the diabolical sound, but the less said about that the better.

When you look at the detail of the background graphics it is not surprising that there are only a few screens. I would have preferred more screens in exchange for a slight loss of detail and variety. Once you have seen all the screens and beaten it on the first level there is little incentive to play it again; unlike the arcade machines for instance which reveal more enemies and scenes as you progress. If you feel the need for a beat 'em up I suggest you take a look at the alternatives before parting with your cash.

T.H.



Graphics: 6  
Sound: 2  
Playability: 5  
Value: 5  
Price: £24.95



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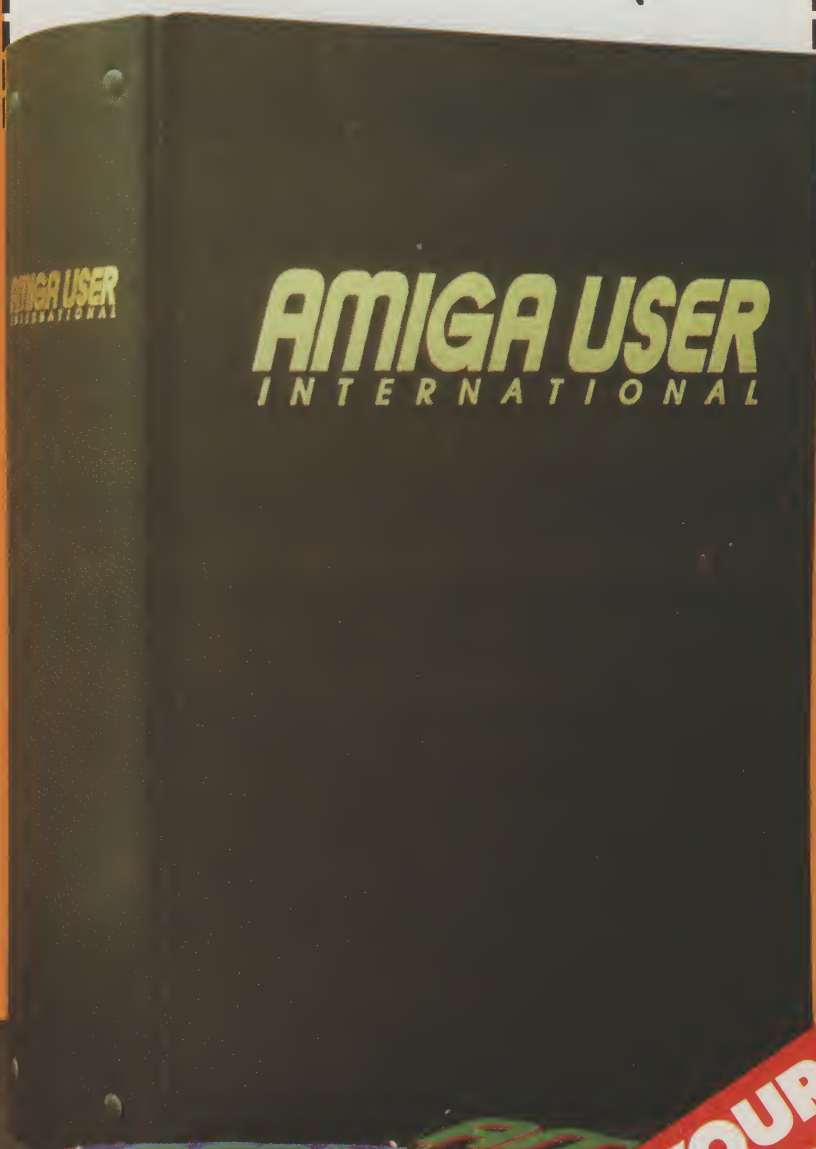
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# SPEEDBALL

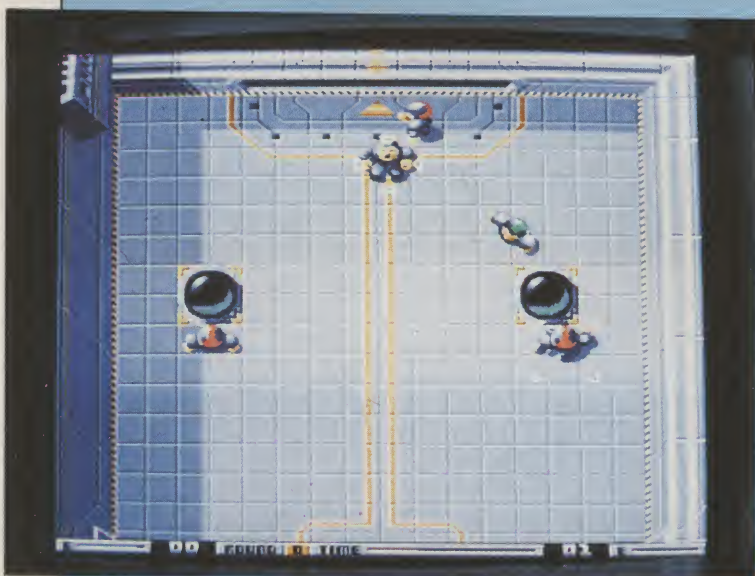


Until now, most "future sports" have turned out merely simplified variations on old themes with a hint of bas-relief graphics for a futuristic look. Speedball is the first I have played that actually works. It has followed a similar route to the majority of its forerunners, combining football and basketball with nose-breaking violence. The difference is in the great amount of time and thought that has gone into the creation of the game.

Games take place in a steel-walled arena with a goal at each end. The idea is simply to get the steel ball into the opponent's goal as many times as possible during the game, whilst defending your own. Players can run with the ball and throw it in any direction. Two kinds of throws are open to the player in possession: a lob, used for passing the ball over opposing players' heads, and a lower throw for taking shots. The reason for this second throw is that the goals are not like those found in football, but narrow slots about

# SPEED

*"The goals are not like those found in football, but narrow slots about half way up the walls."*



half way up the walls. Throw the ball through one of the doors on the side walls and it reappears from the opposite wall, very handy for confusing the opposition.

So far it's all fair and above board, but what happens when you want to make a tackle? This is where the violence comes in. Running towards a player who has the ball and pressing the fire button initiates a reckless sliding tackle in his direction, usually disabling the victim for a couple of seconds and giving you the ball. Opponents can also be beaten up even if they don't have the ball. This is most useful when two players are going for the same ball; a kick in the face soon sorts out who is boss! Mid-air interceptions can be achieved by leaping skywards and grabbing the steel globe, but this has the disadvantage of leaving you totally defenceless for a second.

Goalies are put under player control as soon as they appear on the screen. Instead of catching the ball they prefer to punch it back up the pitch. They can dive, but this is only a last resort and is very difficult to perform effectively.

Floor tiles often flip over to reveal letters on their underside. These can be collected by the players for effects such as freezing the opponents' movements, increasing your stamina and transforming the ball into a bolt of energy that knocks



out anyone it hits. A second kind of token clocks up credits that can be used between games to bribe officials into altering the scoreline, adding extra time sessions, and manipulating yours and the opponents' performance levels.

The vertically scrolling pitch uses the entire height of the PAL display, forcing the status bar to the very bottom of the screen which unfortunately has a habit of disappearing off the edge of some TV's.

A number of combinations of one and two player knock-out competitions and leagues can be selected. The league seasons can be as long as 100 weeks giving you more than enough time to work your way up the rankings. Fortunately the game situations can be saved to disk.

# BALL

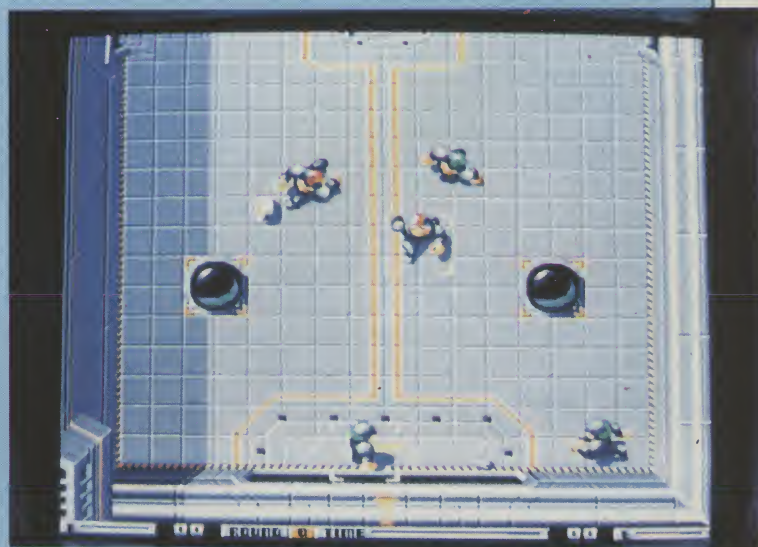
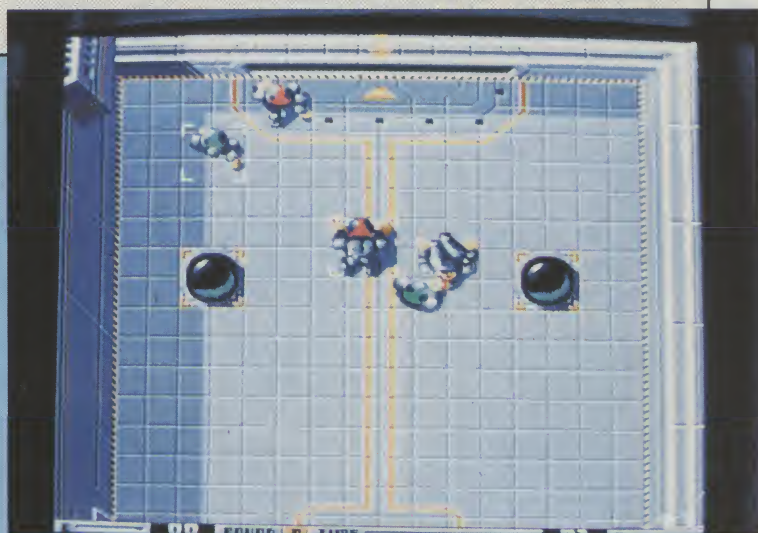
***"Between games and during the selection screens there are some superb portraits of the team."***

Between games and during the selection screens there are some superb portraits of the team captains and short animations that give it a very arcade-ish look. The in-game graphics are held back a little by the limiting bird's eye view but are all drawn in a suitably metallic style. Sampled clangs signify the ricochets of steel on steel, the crowd cheers with each goal and the music is well suited to the game, despite its familiar voices.

One of the few problems encountered in Speedball is that at first it can very hard to tell exactly what is going on. Stick with it and it all becomes a lot clearer with practice. The game really grows on you, and its pull is fortified by the league and knockout competitions that are simple enough to get straight into, and act as goals beyond simply beating the computer opponent. This game together with the success of Xenon, shows The Bitmap Bros. are headed for big things. They already look a class above other Amiga arcade-style programmers. Speedball is one game certainly worth catching up with, make sure you're not left behind. Highly recommended.

T.H.

Graphics: 9  
Sound: 8  
Playability: 9  
Value: 8  
Price: £24.95



***"Mid-air interceptions can be achieved by leaping skywards and grabbing the steel globe."***





**The subject of Magnetic Scrolls latest adventure is set to nibble on the bait of yet more admirers. Andy Moss reports on how Fishy is fish?**

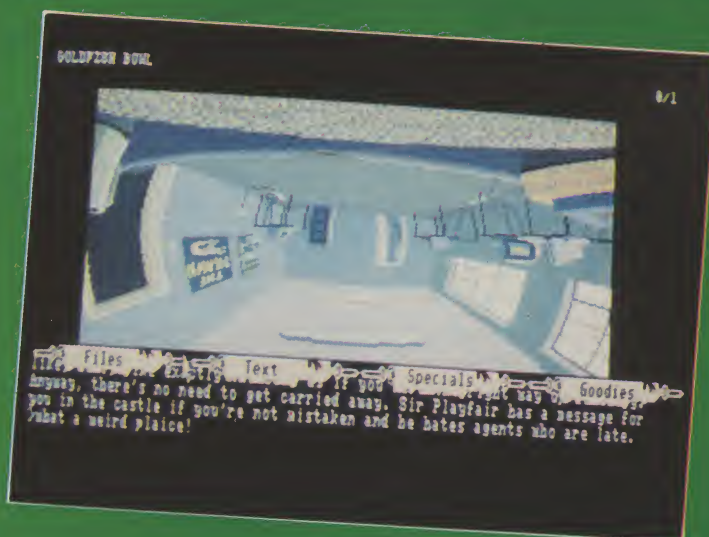
**I** hate fish. That's not to say I hate FISH! far from it, it is just that I hate fish. Real fish that is, so obviously when I was confronted with Magnetic Scrolls latest work, I was not chomping at the bit, to say the least. A more distasteful subject they could not have hoped to pick, still, in the name of good journalism and never being one to let down our readers, I ploughed straight in to it, in an effort to bring you a full report, hook line and sinker, so to speak.

Mag Scrolls never fail to bring you the original, the new, the squeaky clean adventures, that others have yet to try, and since their last adventure, *CORRUPTION* was so critically acclaimed, we always hoped that this one would be just as good. Well I have to report that in *FISH!* we have yet another flawed masterpiece, that just oozes with writing of a class way above any other adventure house, but is let down once again by a fussy parser. More about that later, first on to the plot. In *FISH!* you play the part of an Interdimensional espionage operative, and have just completed one of the most dangerous missions of your career. You successfully apprehended the The Seven Deadly Fins, an inter-dimensional group of anarchists, who have been responsible for some of the most heinous crimes in living history. As a reward for this outstanding achievement your Boss, Rear Admiral Sir Playfair Panchax VC DSO FRT has allowed you to indulge in Voluntary Vacation Mode, which lets you relax in the guise of a whole range of different people and objects from Gardeners and Ticket Clerks, through to a printer or a weighted book. The ultimate reward, is to be a goldfish, doing nothing all day except swim around your bowl. All very relaxing indeed, and it is in this guise you find yourself when the adventure opens.

**"FISH! is the strangest plot line yet from the Scrolls team, yet the wit is as sharp as ever."**

There you are swimming around picking on the food that is floating on top of the water, when BANG! all of a sudden you get hit on the head by a tacky plastic castle of all things. You decide to have a look inside, and realise that it is your boss's way of contacting you. Trouble is afoot, as

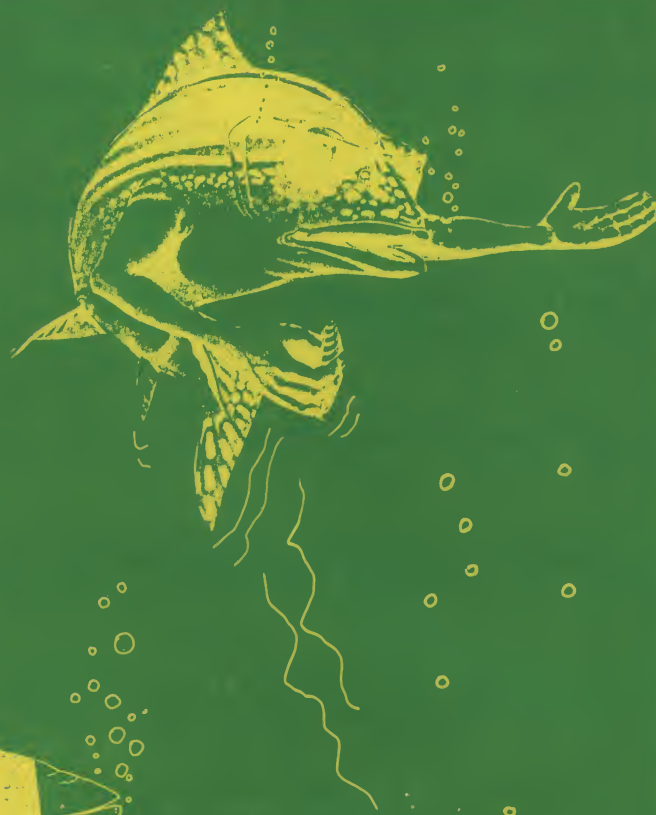
the Seven Deadly Fins have escaped, and sabotaged a planet called Fishworld, whose inhabitants are, well, fish. They have stolen an object called a focus wheel, and dismantled it,





so your vacation comes to an abrupt end as before you appear three warps. These are your gateways to the rest of the adventure, and in each place to which you get warped, will be another warp somewhere to take you on. During the course of your travels, you get to visit rain soaked forests, London recording studios, old churches with strange hippies grouped around a fire, and on in to time and space and beyond. Make no mistake, *FISH!* is the strongest plot line yet from the *Scrolls* team, yet the wit is as sharp as ever. My favourite line is when you are exploring an old altar, and come across finely beaded cord. What do you do? Pulling it, brings out a train guard who demands you pay a £50 fine, until he looks around, sees where he is and with an "oops, wrong place" goes back to wherever he came from!

The flaw I mentioned at the start concerning the parser is this. *Scrolls* began life with a fantastic parser, that could interpret complex



"open door" games with us. There is nothing more frustrating than fighting with the program when it says "which door the wooden door or the studio door". Why not just input "open door north", or even just "north", and if the door is unlocked, you walk through automatically.

This apart, *FISH!* has all you could want in an adventure, humour, puzzles and the usual *Mag Scroll* high quality pull down graphics. Now, where did I leave my fishing rod, I think after playing this, I have developed quite a liking for fishes.

A.M.

RATING: 9/10



phrases like "replot pot plant in plant pot". We were told that this parser was the most sophisticated state of the art development in adventure writing history. Fine, great we all said, but why, oh why, do they still insist on playing





# ATAX

## Eclipse

**F**OR a vertical scrolling alien zapper to make any waves now it has to have something a bit special. Atax does have a lower price than the average game, but that is about all it has going for it.

The drab title screen says a lot about the game. On the left, a bland bas-reliefscore panel occupies about a third of the screen with info on your score, lives and the name of the current level. A tiny ship moves around the smooth scrolling backgrounds to the right. Some games have you shooting slimy creatures, others accost you with fleets of high-tech space craft, but the author of Atax has settled for something far more menacing: circles!

Circles of a different kind (glowing this time) float down the screen now and then. These can be picked up to add drone pods to your ship that follow in your tracks, shooting when you do. The problem with these is that they often drift down the edge of the screen over deadly scenery where collecting them is an impossibility.

Control of your ship is very finicky and worsened by the cramped play area. The traditional mega-aliens that usually sit at the ends of levels have been replaced in Atax with far more mundane defences.



Everything is so puny in this game! Your ship is minute, your lasers are nothing but dots and the aliens rate as some of the weediest ever seen! When the Amiga was in its early days, these were the kinds of irritants we had to put up with if we wanted a shoot 'em up. Things have changed drastically since then and a lot of progress has been made in this area. Sidewinder, for example, retails at a fiver less and wipes the floor with this.

Anyone on the lookout for a shoot 'em up of the vertically scrolling variety should either hunt down a copy of Sidewinder or Xenon, or hang around for Outlaw's Shoot 'em Up Construction Kit, all of which will serve you far better than this.

T.H.



Graphics: 3  
Sound: 3  
Playability: 3  
Value: 4  
Price £14.95



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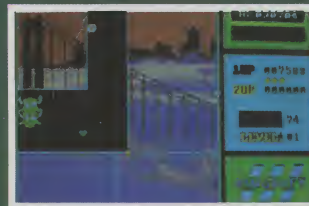


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